Sample QUESTION PAPERS

2012 EXAMINATION

CLASS XII

Engineering Drawing

Computer Science

Informatics Practices

Multimedia and Web Technology

Home Science

Agriculture

CENTRAL BOARD OF SECONDARY EDUCATION

PREET VIHAR, DELHI

Sample Question Papers

Class XII

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CENTRAL BOARD OF SECONDARY EDUCATION
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Foreword

A good evaluation and examination system should become an integral part of the learning process in order to benefit both the learners themselves and the educational system by giving credible feedback. Perceiving examination as an end product of education, creates undue stress and anxiety. All efforts at curriculum design and renewal come to naught if simultaneous efforts at reforming the evaluation and examination system are not taken.

NCF 2005 has recommended that besides testing understanding of the factual information included in the content and textbooks, the tools and techniques of evaluation must also focus on gauging students' abilities to reason, analyse, justify, process and evaluate the information gained through learning experiences. The Board had introduced the new syllabi based on NCF 2005 prepared by NCERT from the academic session 2006-07 in Class XI. Later the Board developed Sample Question Papers for various subjects based on the revised syllabus and the recommendations of NCF 2005. Special efforts were made to include a variety of questions, which would test higher order thinking Skills of learners. Till 2009 Board examination, Sample Question Papers for subjects like 'Engineering Graphics', 'Home Science' and 'Agriculture' were not available for the students. Therefore, since 2010 Board examination, based on the feed back from various stake holders, the Sample Question papers for these subjects were also developed and made available to students. For 2012 Board Examination, Sample Question Paper for Engineering Graphics, Computer Science and informatics practices were revised and accordingly, new set of Sample Question Papers have been developed. The Sample Question Papers for Multimedia and web Technology, Agriculture and 'Home Science' along with their Marking Schemes for 2012 Board examination remain the same as those recommended for 2011 Board examination.

I would like to put on record my deep appreciation and thanks to all the subject experts and practicing teachers who have put in their sincere efforts in the development of this document. Appreciation is also due to Mr. Nagaraju, Director (Academic), Mr. D T Sudarshan Rao, Jt. Secretary (Acad.) for planning and execution of the work Dr. Srijata Das, Education Officer and Mr. E. Daniel Raju, Assistant Education Officer, for coordinating the related activities and bringing out this publication.

It is hoped that all students and teachers will benefit by making best use of this publication. Suggestions from users for further improvement of the document will be highly appreciated.

(VINEET JOSHI)
CHAIRMAN

भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक '[सम्पूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य] बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,
विचार, अभिव्यक्ति, विश्वास, धर्म
और उपासना की स्वतंत्रता,
प्रतिष्ठा और अवसर की समता

प्राप्त कराने के लिए, तथा उन सब में, व्यक्ति की गरिमा और [2] [राष्ट्र की एकता और अखण्डता] सुनिश्चित करने वाली बंधुता बढ़ाने के लिए दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई॰ को एतद्द्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977) से "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977 से), "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

भाग 4 क

मूल कर्त्तव्य

51 क. मूल कर्त्तव्य - भारत के प्रत्येक नागरिक का यह कर्त्तव्य होगा कि वह -

(क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;

(ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;

(ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;

(घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;

(ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरुद्ध हैं;

(च) हमारी सामाजिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझें और उसका परीक्षण करें;

(छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करें तथा प्राणिमात्र के प्रति दयाभाव रखे;

(ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करें;

(झ) सार्वजनिक संपत्ति को सुरक्षित रखें और हिंसा से दूर रहें;

(ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करें जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई उंचाइयों को छू ले।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a [1] **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the [2] [unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

1. Subs. by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic (w.e.f. 3.1.1977)
2. Subs. by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "unity of the Nation (w.e.f. 3.1.1977)

THE CONSTITUTION OF INDIA

Chapter IV A

Fundamental Duties

ARTICLE 51A

Fundamental Duties - It shall be the duty of every citizen of India-

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

Contents

ENGINEERING GRAPHICS
CLASS - XII (046)
DESIGN OF THE QUESTION PAPER

Time : 3 Hrs *Max. Marks : 70*

The weightage of the distribution of marks over different contents of the question paper shall be as follows:

A. WEIGHTAGE TO CONTENTS / SUBJECT UNITS

Unit	Contents	Marks
I	Isometric Projection of Solids	25
II	Machine Drawing	
	a) Machine Parts	15
	b) Assembly / Disassembly	30
	TOTAL	**70**

B. SCHEME OF OPTIONS

1. There will be no overall options.
2. Internal Choices has been given in question of Machine Drawing.

C. WEIGHTAGE TO DIFFERENT LEVEL OF QUESTIONS

S.No.	Estimated Difficult Level	Percentage
1	Easy	15
2	Average	70
3	Difficult	15

A weightage of 20% has been assigned to questions which test higher order thinking skills.

ENGINEERING GRAPHICS
CLASS - XII (046)
BLUE PRINT

Time : 3 Hrs *Max. Marks : 70*

1. UNIT I — ISOMETRIC PROJECTION OF SOLIDS 24

S.No.	Contents	Weightage
a)	Construction of Isometric Scale	4
b)	Isometric Projection of a single vertical solid	7
c)	Isometric Projection of combination of two solids	13

2. UNIT II — MACHINE DRAWING 41

a) MACHINE PARTS 13

S.No.	Contents	Weightage
i)	Drawing of machine parts by scale 1:1 using instruments	8
ii)	Drawing of machine parts by sketching free hand	5

b) ASSEMBLY / DISASSEMBLY 28

S.No.	Contents	Weightage
i)	Orthographic Views	22
ii)	Title, Symbol of Projection, Scale, Dimension, Line Work	6

3. SIMPLE MULTIPLE CHOICE QUESTIONS 5

(Only five questions based on the fundamentals of the above units.)

SAMPLE QUESTION PAPER – I
ENGINEERING GRAPHICS (046)

Time Allowed: 3 hours *Maximum Marks: 70*

Note:

(i) Attempt all the questions.
(ii) Use both sides of the drawing sheet, if necessary.
(iii) All dimensions are in millimetres.
(iv) Missing and mismatching dimensions, if any, may be suitably assumed.
(v) Follow the SP: 46, 2003 revised codes. (with First angle method of projection)
(vi) In no view of question 2, are hidden edges or lines required.
(vii) In question 4, hidden edges or lines are to be shown in views without section.
(viii) Number your answers according to questions.

Q1. Answer the following multiple choice questions. Print the correct choice on your drawing sheet. 5

(i) In isometric projection the three edges of an object are inclined to each other at
(a) 60^{o} (b) 120^{o} (c) 100^{o} (d) 90^{o}

(ii) The angle between the flanks of a metric thread is
(a) 60^{o} (b) 90^{o} (c) 75^{o} (d) 55^{o}

(iii) The number of cotters used in an assembly of sleeve and cotter joint are
(a) One (b) Five (c) Four (d) Two

(iv) A square lamina in isometric projection appears as
(a) Rhombus (b) Rectangle (c) Trapezium (d) Parallelogram

(v) Hidden / invisible edges are represented as
(a) _____ (b) _____ (c) _____ (d) _____

Q.2 (a) Construct an isometric scale of length 80mm. 4

(b) Draw the isometric projection to isometric scale of an inverted cone (diameter=70mm, height=75mm) with the circular face on top and its axis perpendicular to the H.P. Give all the dimensions. 7

(c) A hexagonal pyramid of base edges 25mm and height 50mm, is placed centrally on its on the top face of a square prism of base side 80mm and height 20mm. Two hexagonal base opposite edges of the hexagonal base of the pyramid are perpendicular to the V.P. The common axes are perpendicular to the H.P. Draw the isometric projection of the combination to isometric scale. Give all the dimensions and indicate the direction of viewing. 13

Q.3 (a) Draw to scale 1:1, the standard profile of the metric thread (internal) with the pitch=50mm.Give standard dimensions. 8

OR

Draw to scale 1:1, the front view and side view of a tee headed bolt with diameter M25, keeping its axis parallel to both V.P and H.P. Give standard dimensions.

(b) Sketch free hand the front view and top view of a cheese head screw of size M20, keeping its axis vertical. Give all the standard dimensions. 5

OR

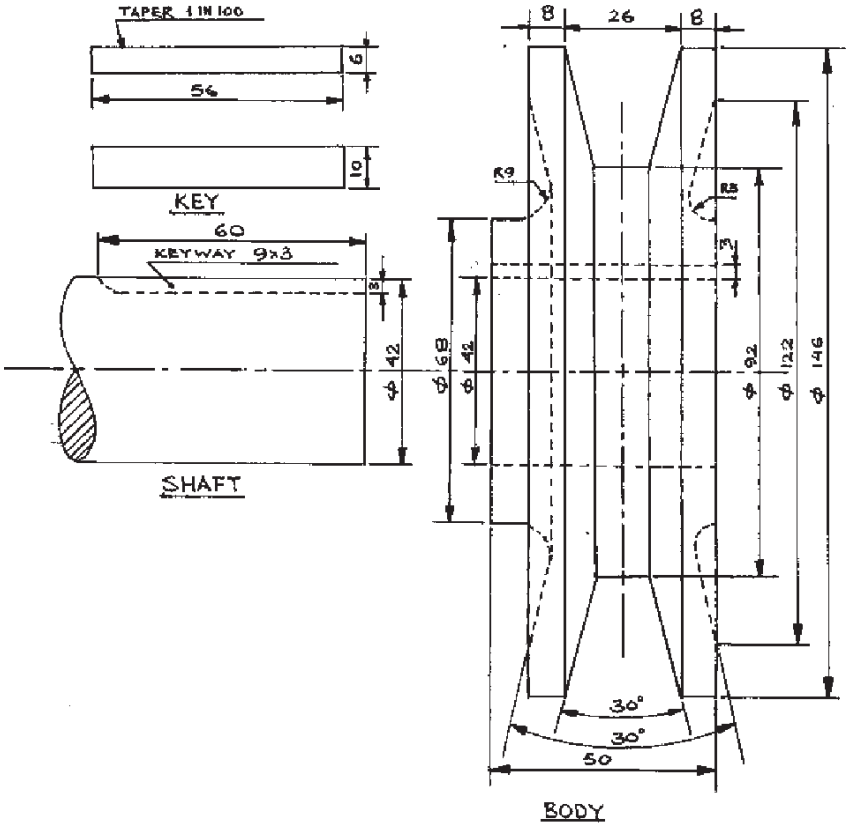
Sketch free hand the front view, top view and side view of a rectangular sunk taper key for a shaft of 60mm diameter. Give all the standard dimensions.

Q.4 Assemble the given V-Belt Pulley, Shaft and Rectangular Sunk Key as shown in Fig 1 and draw the following views, to scale 1:1: 28

(a) Front View, upper half in section. 13

(b) Side view looking from the right end. 09

(c) Give 8 important dimensions, Title, Projection symbol and Scale. 06



SINGLE GROOVE V-BELT PULLEY

FIG - 1

OR

Dis-assemble the Bushed Bearing as shown in Fig 2, and draw the views of the following parts:

(a) BODY

(i) Front View, left half in section. 15

(ii) Top View.

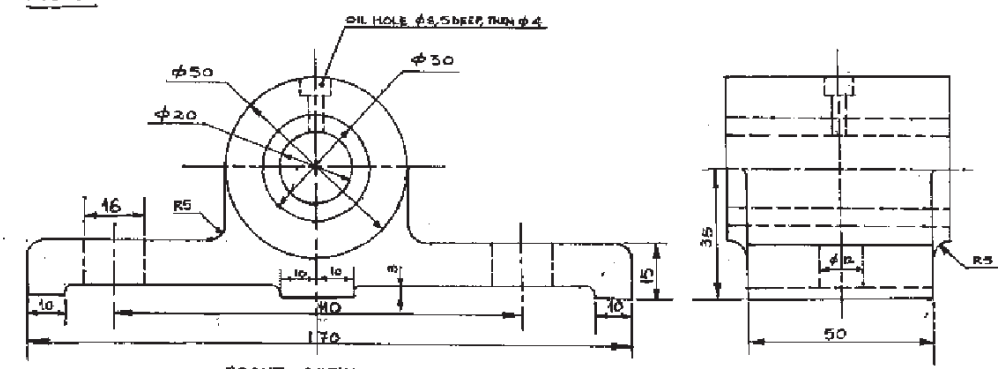
(b) BUSH

(i) Front View, right half in section. 7

(ii) Top View.

(c) Give 8 important dimensions, Title, Projection symbol and Scale. 6

Fig-2



ASSEMBLY OF BUSHED BEARING

SAMPLE QUESTION PAPER – I

VALUE POINTS

Q1 MULTIPLE CHOICE QUESTIONS

(i) b **1**

(ii) a **1**

(iii) d **1**

(iv) a **1**

(v) d **1**

Q2 (a) ISOMETRIC SCALE : **FIG – 1.1 4**

(i) Drawing 45° inclined lines showing true lengths 1

(ii) Projections on 30° inclined line showing isometric length with one 1mm subdivisions 2

(iii) Writing titles, sub titles and angles 1

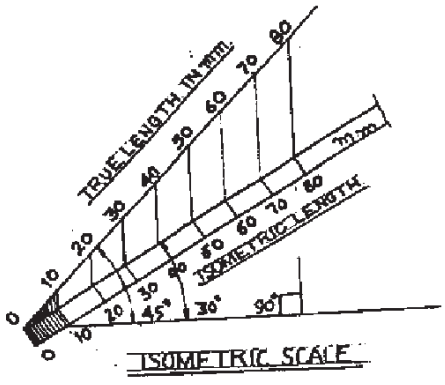


FIG – 1.1

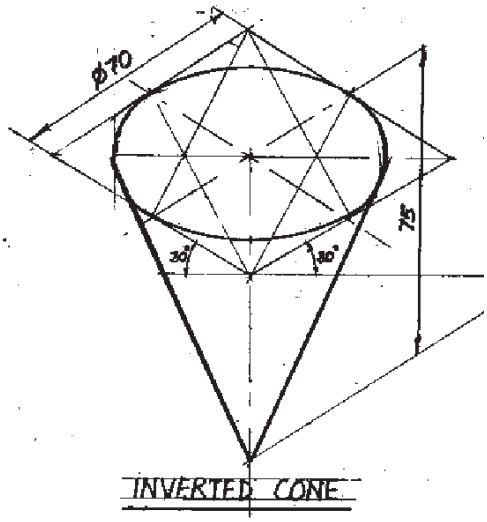


FIG – 1.2

(b) ISOMETRIC PROJECTION OF A CONE : FIG – 1.2 7

(i) Drawing elliptical curve 3

(ii) Drawing two generators 2

(iii) Indicating the axis 1

(iv) Three dimensions 1

(c) ISOMETRIC PROJECTION OF COMBINATION OF SOLIDS : FIG – 1.3 13

(i) Helping figures 1

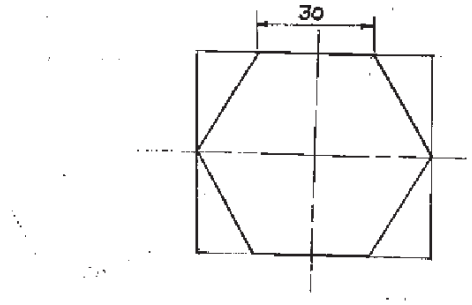
(ii) Drawing isometric squares 2

(iii) Drawing vertical lines indicating the faces 2

(iv) Drawing hexagonal base of pyramid 2

(v) Drawing slant edges 2

(vi) Common axis, dimensioning, direction of viewing 4



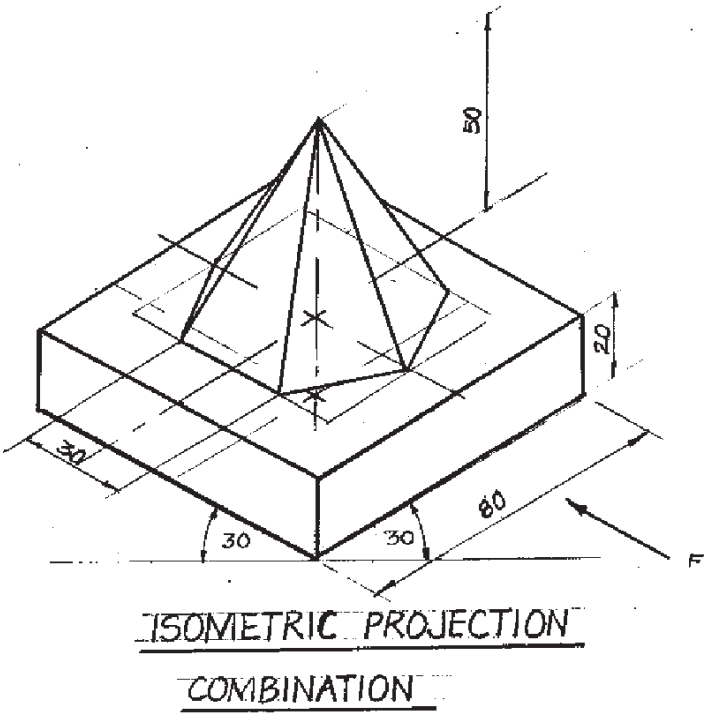


FIG – 1.3

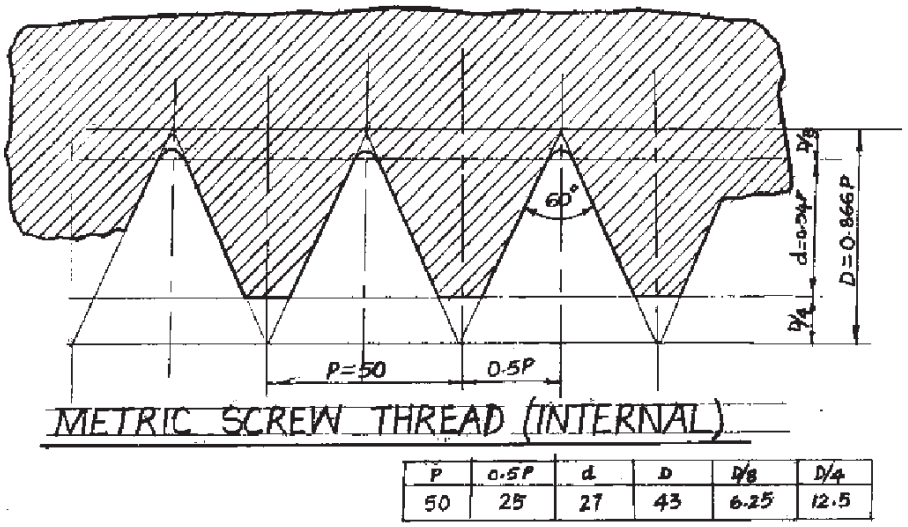
Q3 (a) METRIC THREAD (INTERNAL) : FIG – 1.4 **8**

(i) Distance equal to pitch, and angles of 60^{o} 2

(ii) Flat edges and curves for threads 2

(iii) Side edges / flanks 2

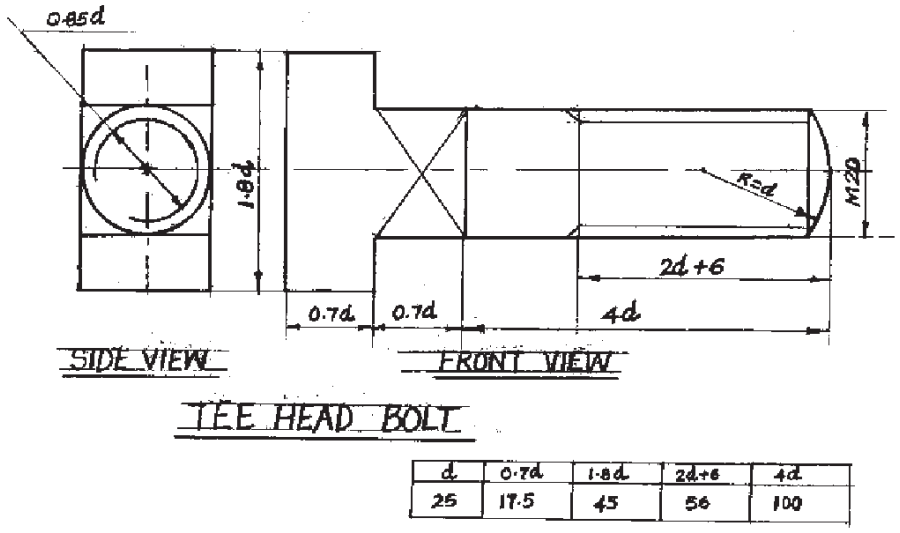
(iv) Dimensions 2



P	0.5P	d	D	D/8	D/4
50	25	27	43	6.25	12.5

FIG – 1.4

OR



d	0.7d	1.8d	2d+6	4d
25	17.5	45	56	100

FIG – 1.5

TEE BOLT : FIG – 1.5 **8**

Front View

(i) Cylindrical shank, square neck and centre line 2½

(ii) Head of bolt 1

Side View

(i) Two circles 1½

(ii) Square neck and rest of the portion 1½

Dimensions 1 ½

(b) CHEESE HEAD SCREW : FIG – 1.6 **5**

(i) Sketching head with threaded shank 2½

(ii) Sketching conventional top view 1

(iii) Writing title, standard values and axis 1½

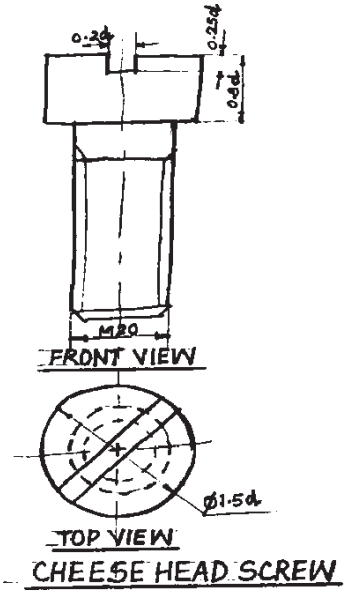
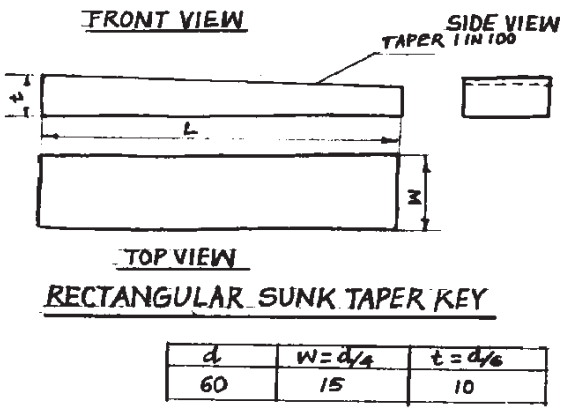


FIG – 1.6



d	W = d/4	t = d/6
60	15	10

FIG – 1.7

OR

RECTANGULAR SUNK TAPER KEY : FIG – 1.7 **5**

(i) Sketching front view 1½

(ii) Sketching top view and side view 2

(iii)Writing title and standard values 1½

Q 4 ASSEMBLY OF V-BELT PULLEY: FIG – 1.8 **28**

(a) FRONT VIEW, UPPER HALF IN SECTION

Drawing upper half in section with V groove. 8

Drawing Lower half without section. 5

(b) SIDE VIEW, VIEWING FROM THE RIGHT HAND SIDE

Drawing five circles. 5

Drawing other details. 4

(c) OTHERS

Important Dimensions. 2

Titles, Symbol of Projection and Scale. 4

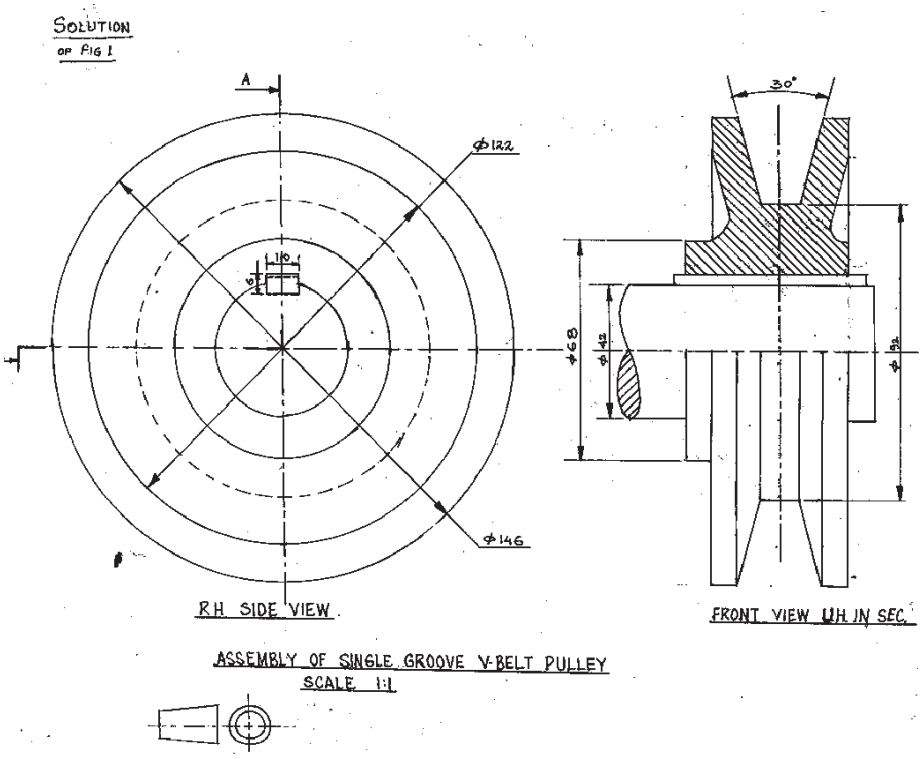


FIG – 1.8

OR

DIS-ASSEMBLY OF BUSHED BEARING: FIG – 1.9 **28**

(a) BODY

(i) Front View.

Drawing left half in section. 5

Drawing right half without section. 3

(ii) Top View. 7

(b) BUSH

(i) Front View, right half in section. 4

(ii) Top View. 3

(c) OTHERS

Important Dimensions. 2

Titles, Symbol of Projection and Scale. 4

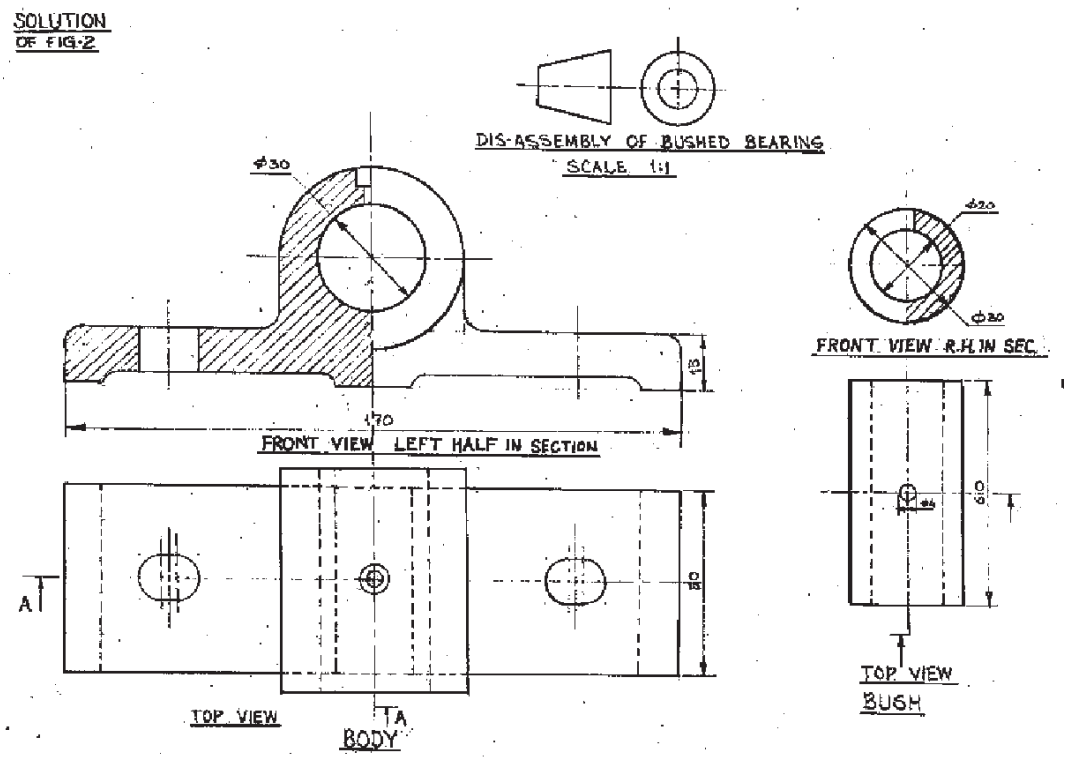

SOLUTION
OF FIG.2
DIS-ASSEMBLY OF BUSHED BEARING
SCALE 1:1
FRONT VIEW LEFT HALF IN SECTION
FRONT VIEW R.H.IN SEC.
TOP VIEW
BODY
TOP VIEW
BUSH

FIG – 1.9

SAMPLE QUESTION PAPER – II

ENGINEERING GRAPHICS (046)

Time Allowed: 3 hours *Maximum Marks: 70*

Note:

(i) Attempt all the questions.
(ii) Use both sides of the drawing sheet, if necessary.
(iii) All dimensions are in millimetres.
(iv) Missing and mismatching dimensions, if any, may be suitably assumed.
(v) Follow the SP: 46 2003 revised codes. (with First angle method of projection)
(vi) In no view of question 2, are hidden edges or lines required.
(vii) In question 4, hidden edges or lines are to be shown in views without section.
(viii) Number your answers according to questions.

Q1. Answer the following multiple choice questions. Print the correct choice on your drawing sheet. 5

(i) Which one among the following represents a permanent fastener
a) Nut b) Rivet c) Screw d) Bolt

(ii) The convexity provided on the rim of the solid web cast iron pulley is called
a) Bending b) Curving c) Crowning d) Riveting

(iii) Section lines are generally inclined with the base, at an angle of
a) 30^{o} b) 45^{o} c) 60^{o} d) 90^{o}

(iv) The isometric view of a sphere is always
a) a circle b) an ellipse c) a Parabola d) a Semicircle

(v) In isometric projection, the four center method is used to construct
a) an ellipse b) a square c) a triangle d) a rectangle

Q.2 (a) Construct an isometric scale of 80mm long. 4

(b) Construct the isometric projection to isometric scale of the frustum of a regular square pyramid, kept in the inverted position, with base edge 30mm, top edge 50mm and height 80mm, resting on the H.P., with its axis vertical. Two of the opposite parallel edges of the square face are perpendicular to the V.P. Draw the axis and indicate the direction of viewing. 7

(c) A hemisphere of diameter 60mm is placed centrally with its circular face upwards, on a pentagonal prism of base edges 50mm and height 20mm. One of the base edge of the pentagonal prism is perpendicular to the V.P. The common axes are perpendicular to the H.P. Draw the isometric projection of the combination of solids and give all the dimensions. Indicate the direction of viewing. 13

Q3. (a) Draw to scale 1:1, the front view and top view of a hexagonal nut, the bolt diameter is given as 20 mm. The axis of the nut is vertical. Give the standard dimensions. 8

OR

Draw to scale 1:1, the front view and side view of a square headed bolt of diameter 20mm, keeping its axis parallel to both V.P. & H.P. Give all the standard dimensions.

(b) Sketch free hand the front view and top view of a snap head rivet of diameter 30mm, taking its axis vertical. Give all the standard dimensions. 5

OR

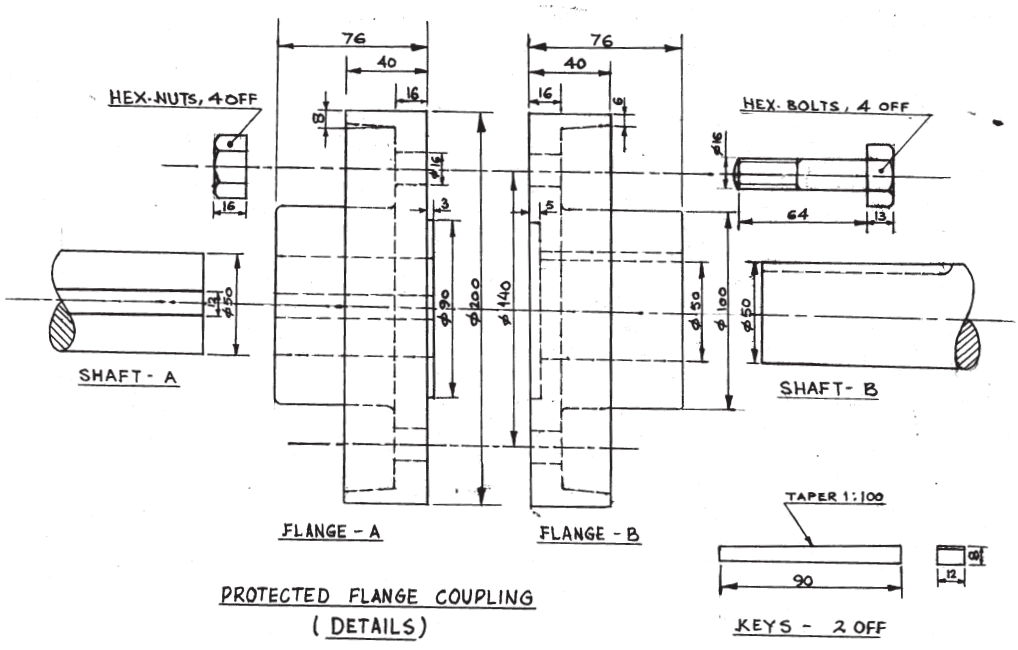
Sketch free hand the front view and top view of a collar stud of size M20, keeping its axis perpendicular to the H.P. Give all the standard dimensions.

Q.4 Assemble the Protected Flange Coupling, Shaft with Nut-Bolt as shown in Fig 1 and draw the following views: 28

(a) Front View, upper half in section.

(b) Side view looking from the Left end.

(c) Give 8 important dimensions, Title, Projection symbol and Scale.



PROTECTED FLANGE COUPLING
(DETAILS)

OR

Dis-assemble the Gib and Cotter as shown in Fig 2, and draw the views of the following parts, to scale 1:1: 28

(a) FORK END

(i) Front View, Upper half in section.

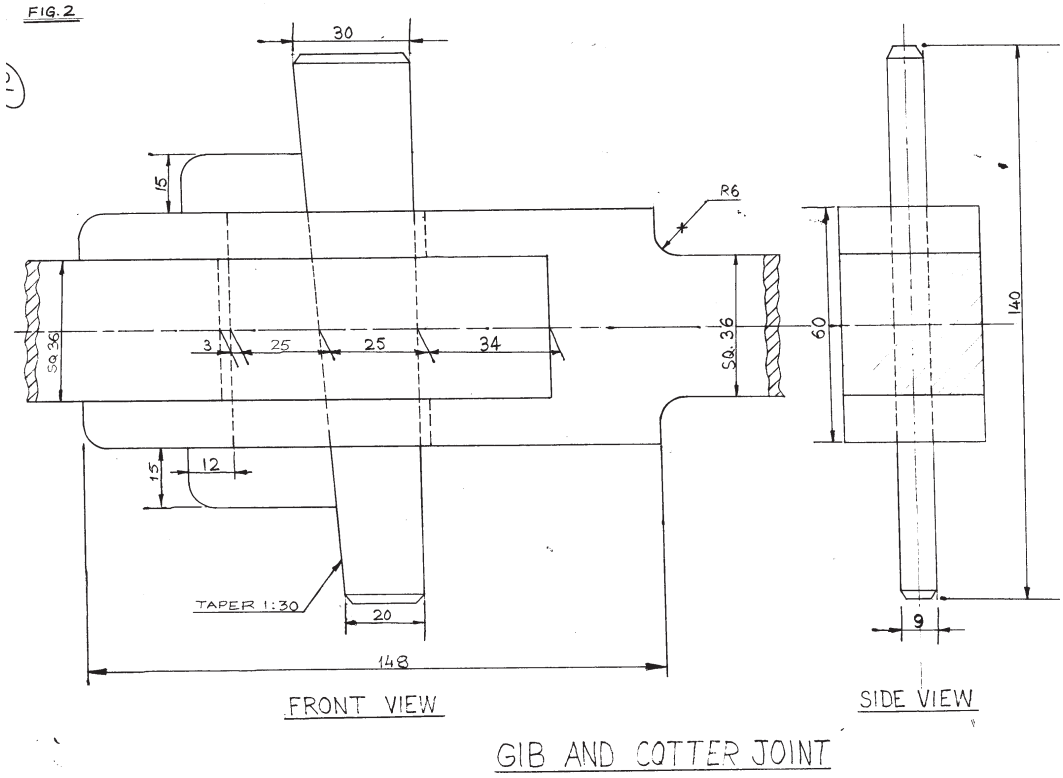
(ii) Top View.

(b) GIB

(i) Front View.

(ii) Side View.

(c) Give 8 important dimensions, Title, Projection symbol and Scale.



SAMPLE QUESTION PAPER – II

VALUE POINTS

Q1 MULTIPLE CHOICE QUESTIONS

(i) b **1**

(ii) c **1**

(iii) b **1**

(iv) a **1**

(v) a **1**

Q2 (a) ISOMETRIC SCALE : FIG – 2.1 **4**

(i) Drawing 45° inclined lines showing true lengths 1

(ii) Projections on 30° inclined line showing isometric length with one 1mmsubdivisions 2

(iii) Writing titles, sub titles and angles 1

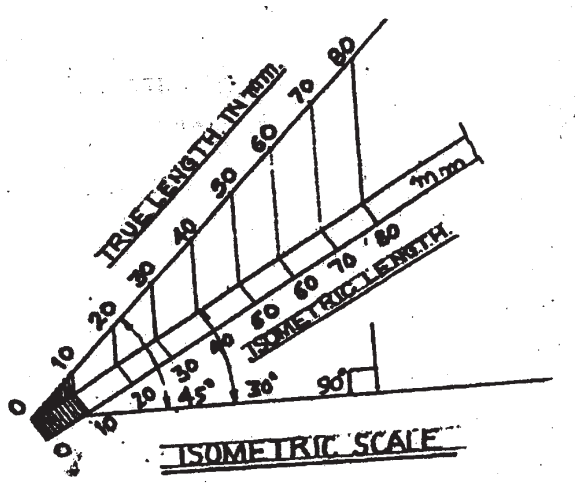


FIG. 2.1

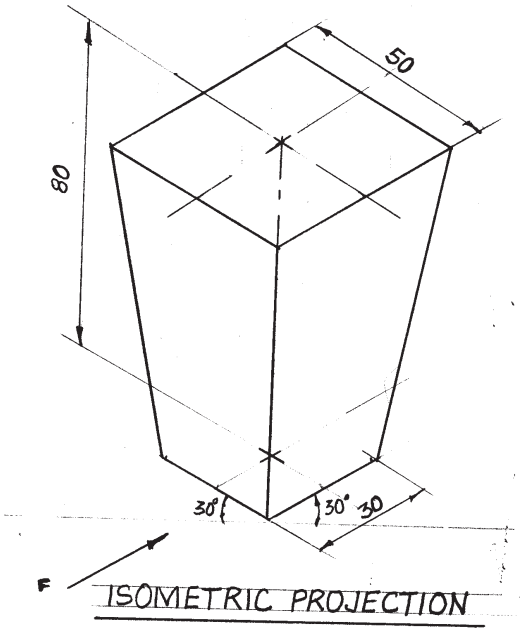


FIG. 2.2

(b) ISOMETRIC PROJECTION OF THE FRUSTUM OF AN INVERTEDSQUARE PYRAMID: FIG – 2.2 **7**

(i) Drawing Isometric squares 3

(ii) Drawing slant edges 2

(iii) Axis, dimensioning, direction of viewing 2

(C) ISOMETRIC PROJECTION OF COMBINATION OF SOLIDS: FIG – 2.3 13

(i) Helping views 1

(ii) Drawing Isometric hemisphere 4

(iii) Drawing isometric pentagon with vertical lines 4

(iv) Common axis, dimensioning, direction of viewing 4

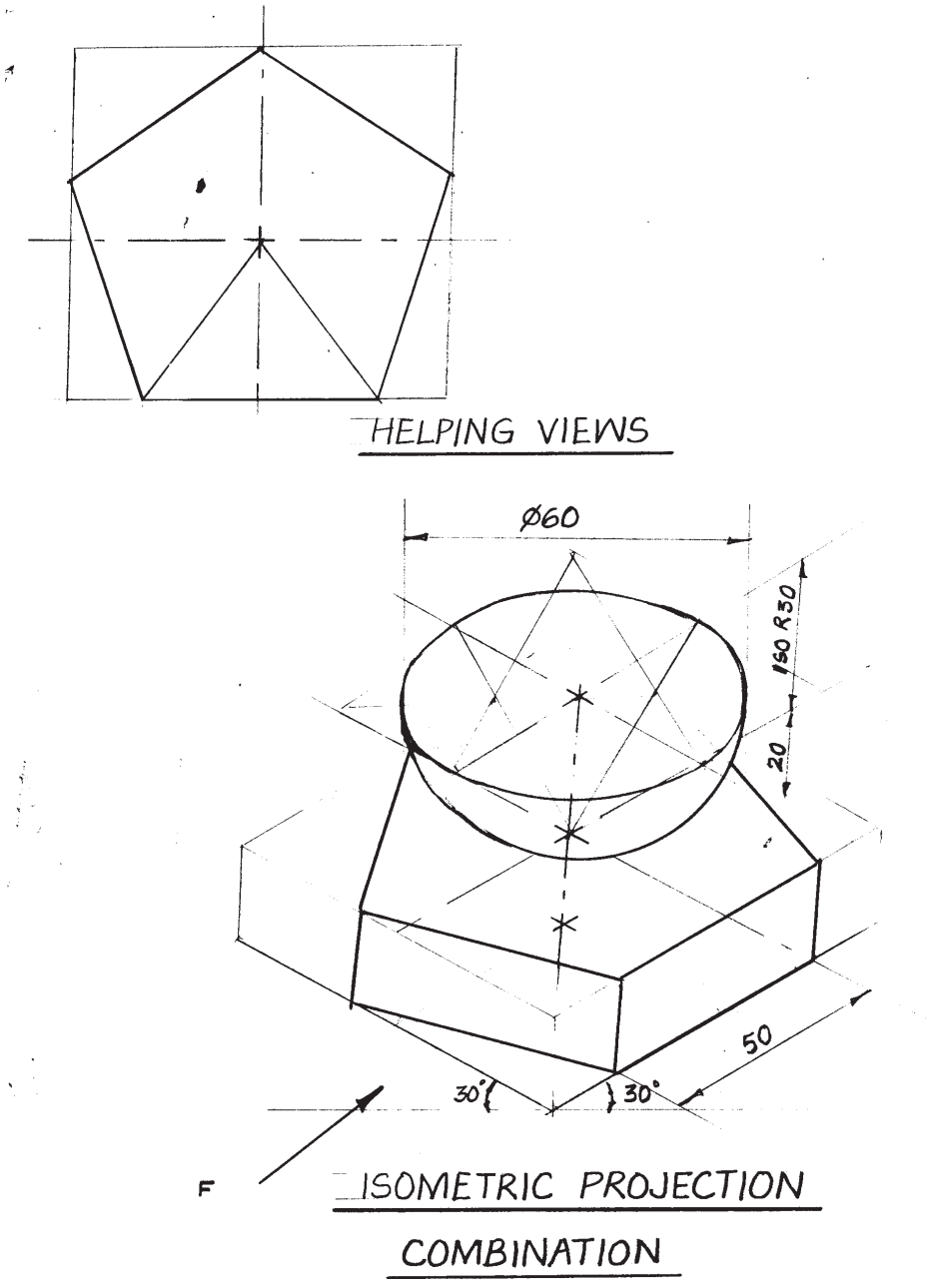


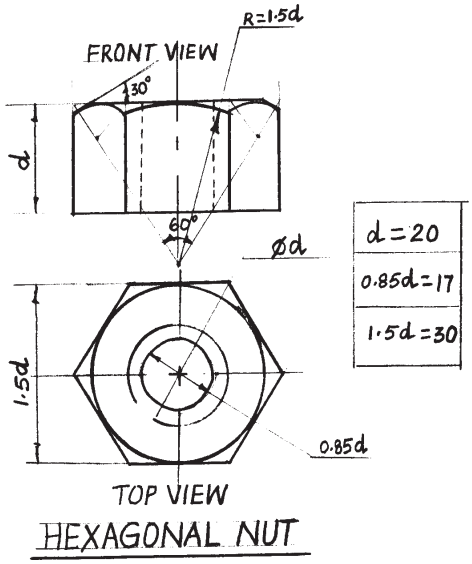
FIG. 2.3

Q3 (a) HEXAGONAL NUT : FIG – 2.4 **8**

(i) Drawing front view with details 3

(ii) Drawing top view with details 3

(iii) Dimensions and titles 2



d = 20
0.85d = 17
1.5d = 30

FIG. 2.4

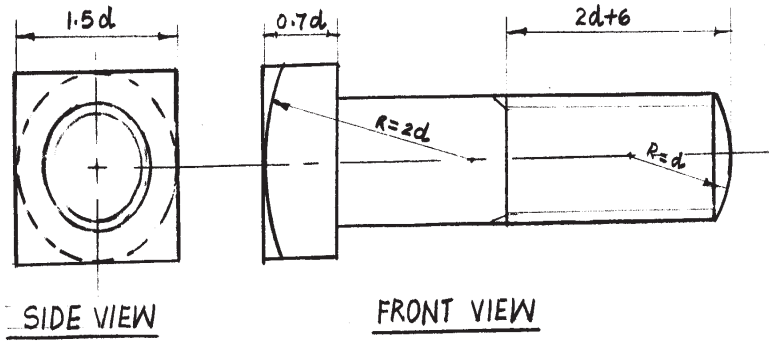
OR

SQUARE HEADED BOLT : FIG – 2.5 **8**

(i) Drawing front view with details 3

(ii) Drawing side view with details 3

(iii) Titles and standard dimensions 2



d	2d	0.7d	1.5d	2d+6
20	40	14	30	46

FIG. 2.5

Q3 (b) SNAP HEAD RIVET : FIG – 2.6 **5**

(i) Sketching the front view 2

(ii) Sketching the top view 1

(iii) Writing titles, standard values and axis 2

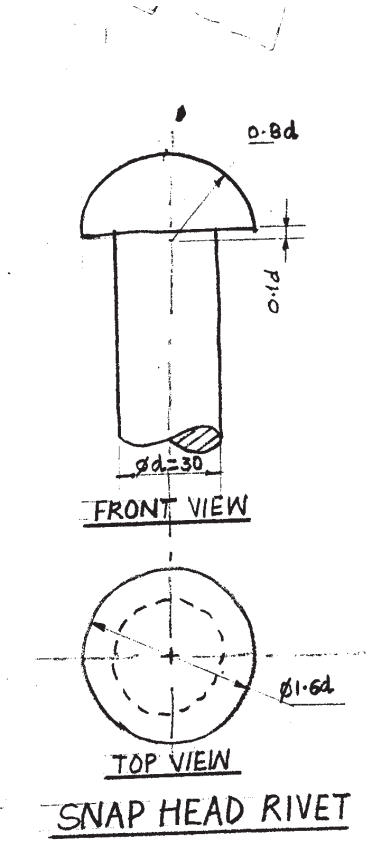


FIG. 2.6

OR

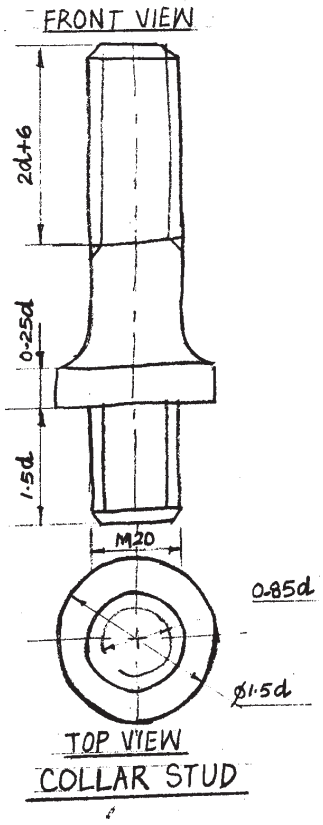


FIG. 2.7

OR

COLLAR STUD : FIG – 2.7 **5**

(i) Sketching stud with collar 2

(ii) Sketching the top view 1

(iii) Writing titles, standard values and axis 2

Q4 ASSEMBLY OF PROTECTED FLANGE COUPLING : FIG – 2.8 **28**

(a) FRONT VIEW

Drawing upper half in section. 9

Drawing Lower half without section. 4

(b) SIDE VIEW

Drawing six circles. 5

Drawing other details. 4

(c) OTHERS

Important Dimensions.	2
Titles, Symbol of Projection and Scale.	4

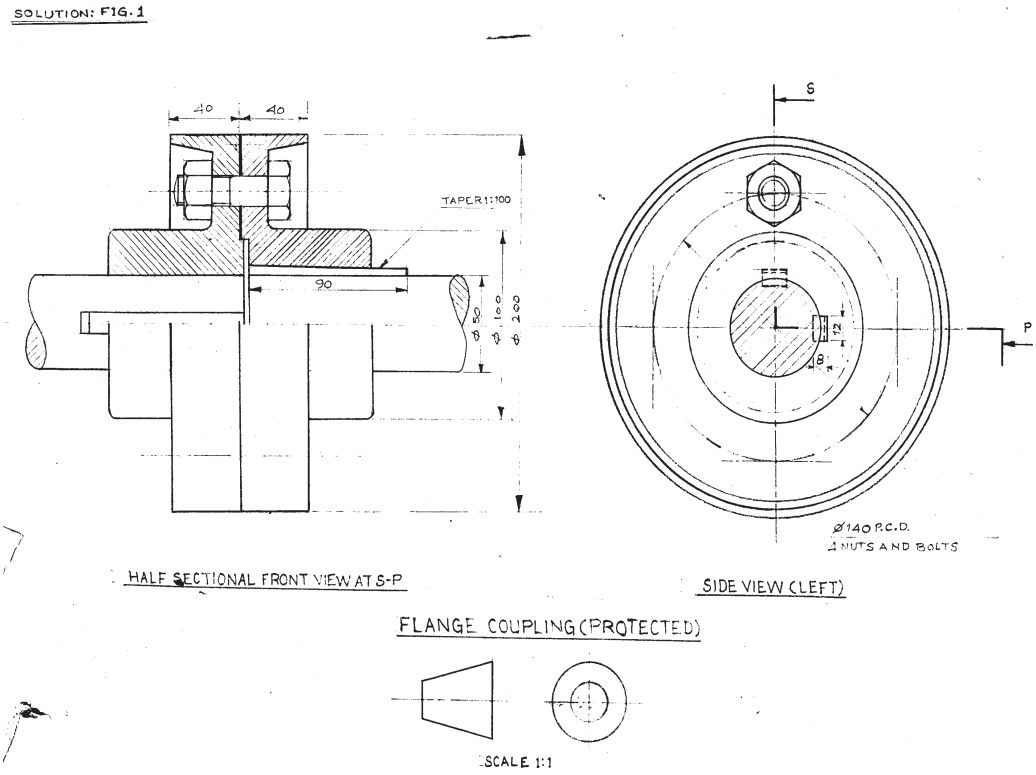


FIG. 2.8

OR

DIS-ASSEMBLY OF GIB AND COTTER JOINT : FIG – 2.9 **28**

(a) FORK END

(i)	Front View	
	Drawing upper half in section	5
	Drawing lower half without section.	3
(ii)	Top View.	6

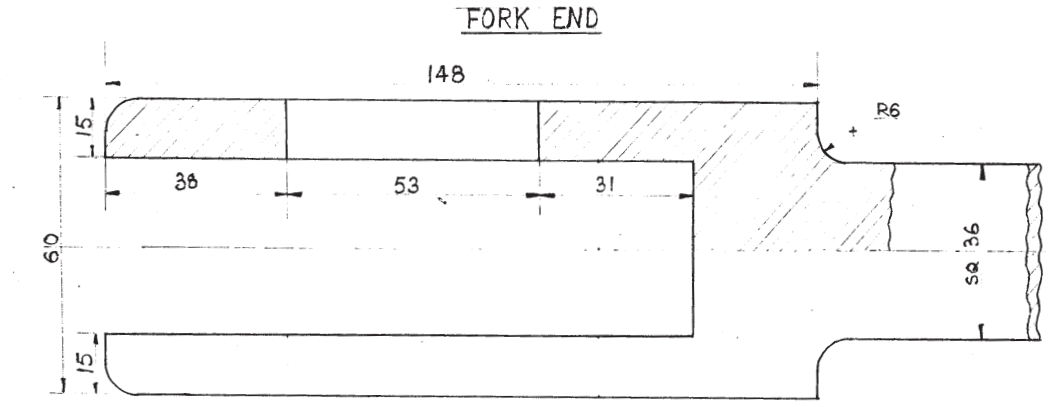
(b) GIB

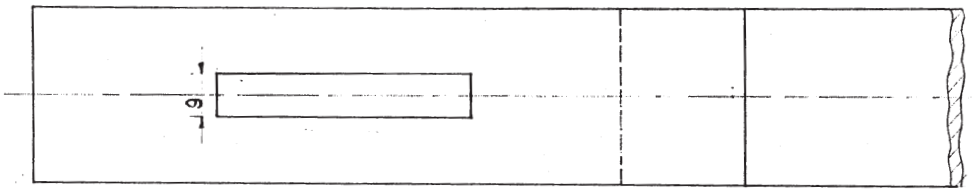
(i)	Front View, right half in section.	5
(ii)	Top View.	3

(c) OTHERS

Important Dimensions.	2
Titles, Symbol of Projection and Scale.	4

SOLUTION: FIG.2





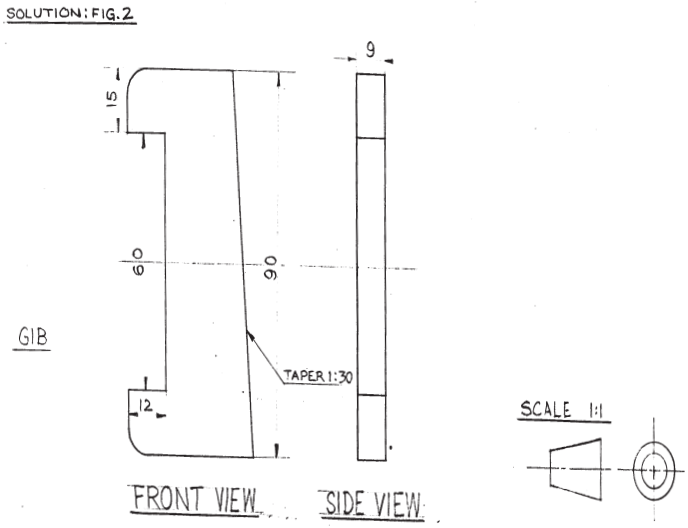


FIG. 2.9

SAMPLE QUESTION PAPER – III

ENGINEERING GRAPHICS (046)

Time Allowed: 3 hours *Maximum Marks: 70*

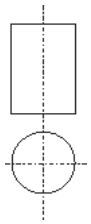
Note:

(i) Attempt all the questions.
(ii) Use both sides of the drawing sheet, if necessary.
(iii) All dimensions are in millimetres.
(iv) Missing and mismatching dimensions, if any, may be suitably assumed.
(v) Follow the SP: 46 2003 revised codes. (with First angle method of projection)
(vi) In no view of question 2, are hidden edges or lines required.
(vii) In question 4, hidden edges or lines are to be shown in views without section.
(viii) Number your answers according to questions.

Q1. Answer the following multiple choice questions. Print the correct choice on your drawing sheet. 5

(i) With respect to the elevation and plan given below, name the solid

(a) Cone
(b) hexagonal prism
(c) cylinder
(d) hexagonal pyramid



(ii) A footstep bearing is a

a) journal bearing b) thrust bearing
c) pivot bearing d) pedestal bearing

(iii) The angle between the flanks of B.S.W. thread is

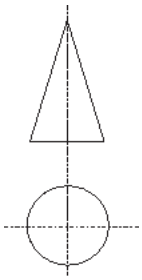
a) 60^{o} b) 65^{o} c) 55^{o} d)75^{o}

(iv) Top view is projected on the

a) Vertical Plane b) Corner Plane
c) Side Plane d) Horizontal Plane

(v) With respect to the front view and top view given below, name the solid

(a) Cone
(b) Cylinder
(c) Cube
(d) Frustum



Q.2 (a) Construct an isometric scale of length 70mm. 4

(b) Construct the isometric projection to isometric scale, of the frustum of a regular pentagonal pyramid of bases edge 50mm and top edges 30mm, with its pentagonal end resting on the H.P. The height of the solid is 70 mm with its axis perpendicular to the H.P. One of the base edge, which is nearer the observer is parallel to the V.P. Draw the axis and indicate the direction of viewing. 7

(c) A cylinder of diameter 40mm and height 50mm is placed centrally on the top surface of a circular disc of diameter 60mm and height 20mm. The common axes are perpendicular to the H.P. Draw the isometric projection of the solids to isometric scale. Give all dimensions. 13

Q.3 (a) Draw to scale 1:1 the standard profile of a square thread and a knuckle thread, taking the enlarged pitch as 40mm. Give all the standard dimensions. 8

OR

Draw to scale 1:1, the sectional front view and top view of a single riveted lap joint for the plates of thickness 25mm. Give all the standard dimensions.

(b) Sketch free hand the front view and top view of a grub screw of diameter 25mm, keeping its axis vertical. Give all the standard dimensions. 5

OR

Sketch free hand the front view and side view of a plain stud of size M20, keeping its axis parallel to both V.P. & H.P. Give all the standard dimensions.

Q.4 Assemble the given parts of a Plummer Block as shown in Fig 1 and draw, to scale 1:1; 28

(a) Front View, left half in section. 22

(b) Give 8 important dimensions, Title, Projection symbol and Scale. 6

OR

Dis-assemble the Sleeve and Cotter Joint as shown in Fig 2, and draw the views of the following parts: 28

(a) SLEEVE

(i) Front View, Top half in section. 9

(ii) Side View, viewing from left. 7

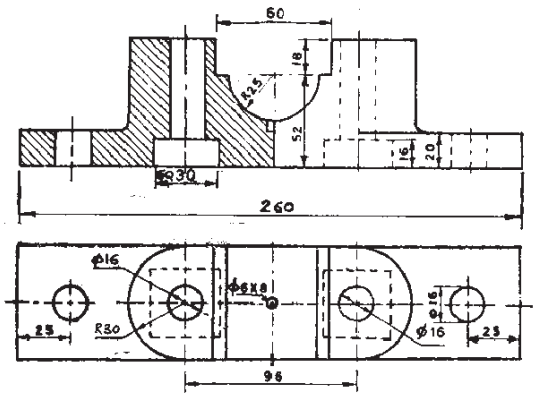
(b) COTTER

(i) Front View. 3

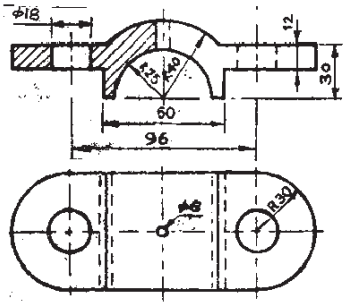
(ii) Top View. 3

(c) Give 8 important dimensions, Title, Projection symbol and Scale. 6

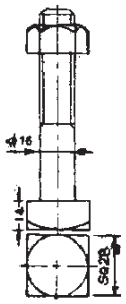
FIG. 1



BODY, C.I., 1 OFF

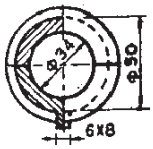


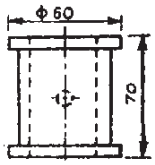
CAP, C.I., 1 OFF



SQ. HEADED BOLT WITH HEX. NUT, M.S., 2 OFF

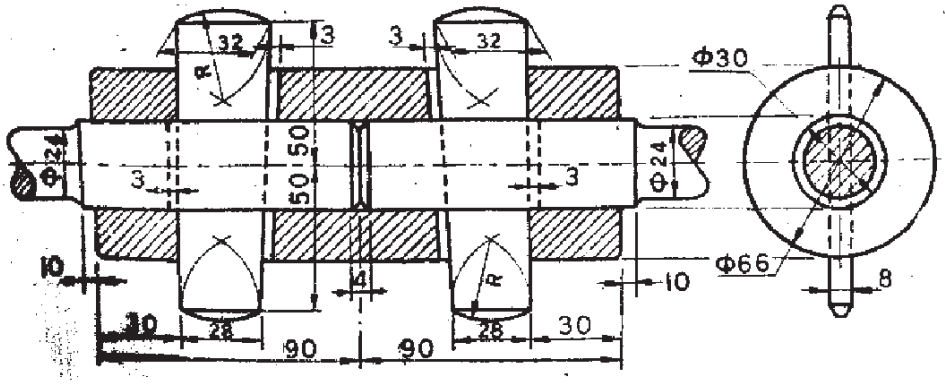
PLUMMER BLOCK (DETAILS)





BUSH, C.I.

FIG. 2



SLEEVE AND COTTER JOINT (ASSEMBLY)

SAMPLE QUESTION PAPER – III
VALUE POINTS

Q1 MULTIPLE CHOICE QUESTIONS

(i) c **1**

(ii) c **1**

(iii) c **1**

(iv) d **1**

(v) a **1**

Q2 (a) ISOMETRIC SCALE : FIG – 3.1 **4**

(i) Drawing 45° inclined lines showing true lengths 1

(ii) Projections on 30° inclined line showing isometric length with one 1mm subdivisions 2

(iii) Writing titles, sub titles and angles 1

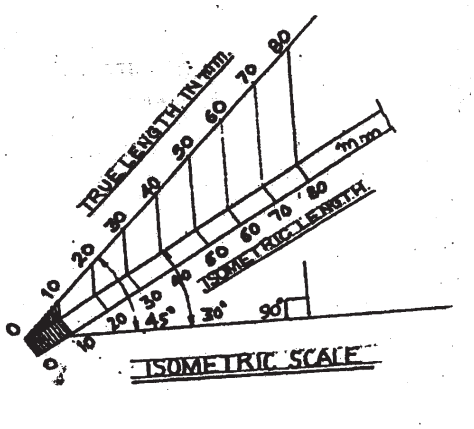


FIG. 3.1

(b) ISOMETRIC PROJECTION OF FRUSTUM OF PENTAGONAL PYRAMID: FIG – 3.2 **7**

(i) Helping view 1

(ii) Drawing Isometric pentagons 2

(iii) Drawing slant edges 2

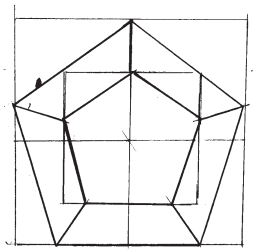
(iv) Axis, dimensioning, direction of viewing 2

(c) ISOMETRIC PROJECTION OF COMBINATION OF SOLIDS : FIG – 3.3 **13**

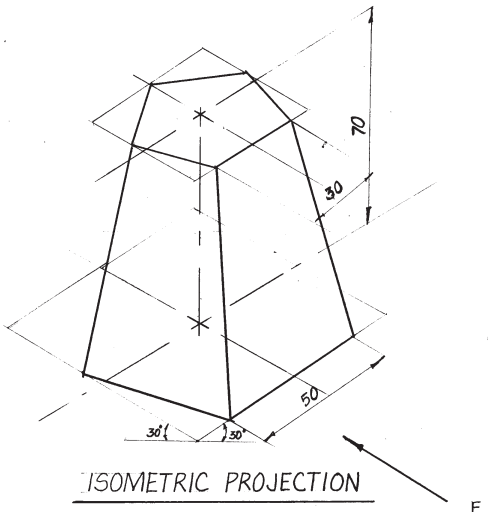
(i) Drawing four elliptical curves 6

(ii) Drawing generators 4

(iii) Common axis, dimensioning 3

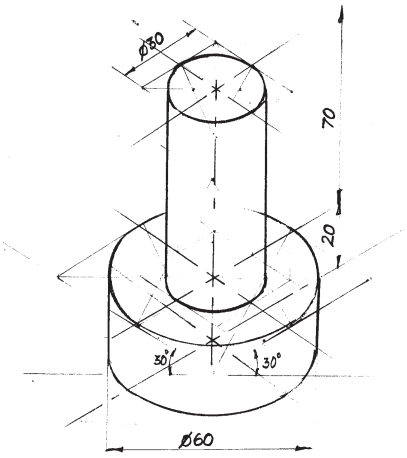


HELPING VIEW



ISOMETRIC PROJECTION

FIG. 3.2



ISOMETRIC PROJECTION

COMBINATION

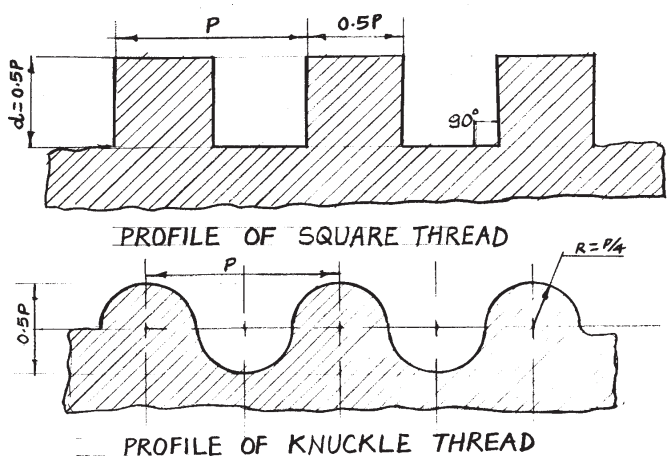
FIG. 3.3

Q3 (a) SQUARE THREAD AND KNUCKLE THREAD : FIG – 3.4 **8**

(i) Drawing the square profile 3

(ii) Drawing the knuckle profile 3

(iii) Dimensions and titles 2



P	40
0.5P	20
P/4	10

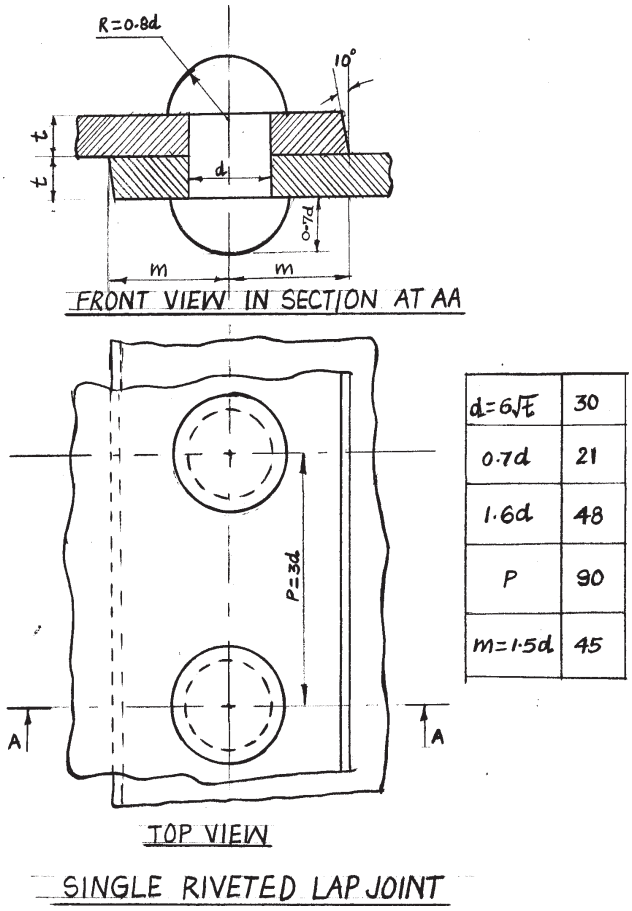
OR

SINGLE RIVETED LAP JOINT : FIG – 3.5 **8**

(i) Front view with details 3

(ii) Top view with details 3

(iii) Dimensions and titles 2



$d=6\sqrt{t}$	30
$0.7d$	21
$1.6d$	48
P	90
$m=1.5d$	45

FIG. 3.5

Q3 (b) GRUB SCREW : FIG – 3.6 **5**

(i) Front view with its axis 2

(ii) Top view 2

(iii) Dimensions 1

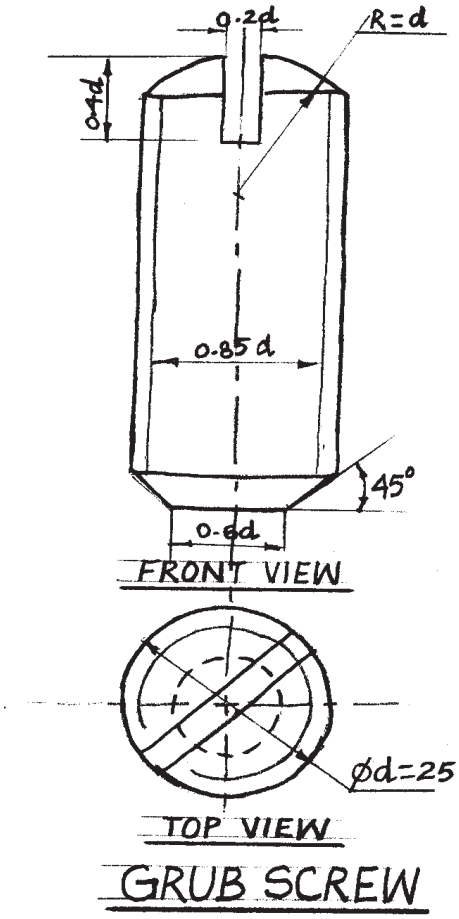


FIG. 3.6

PLAIN STUD : FIG – 3.7	**5**
(i) Sketching the front view	2
(ii) Sketching the side view	1
(iii) Writing the titles and standard values	2

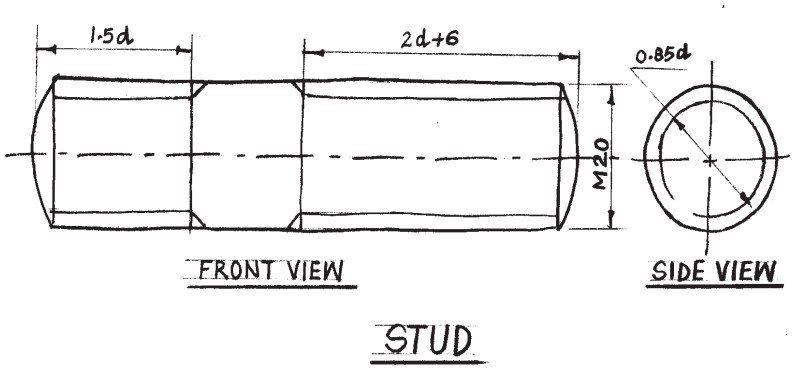


FIG. 3.7

Q4 ASSEMBLY OF PLUMMER BLOCK : FIG – 3.8 **28**

(a) FRONT VIEW

Drawing left half in section	12
Drawing right half without section	10

(b) OTHERS

Important Dimensions	2
Titles, Symbol of Projection and Scale	4

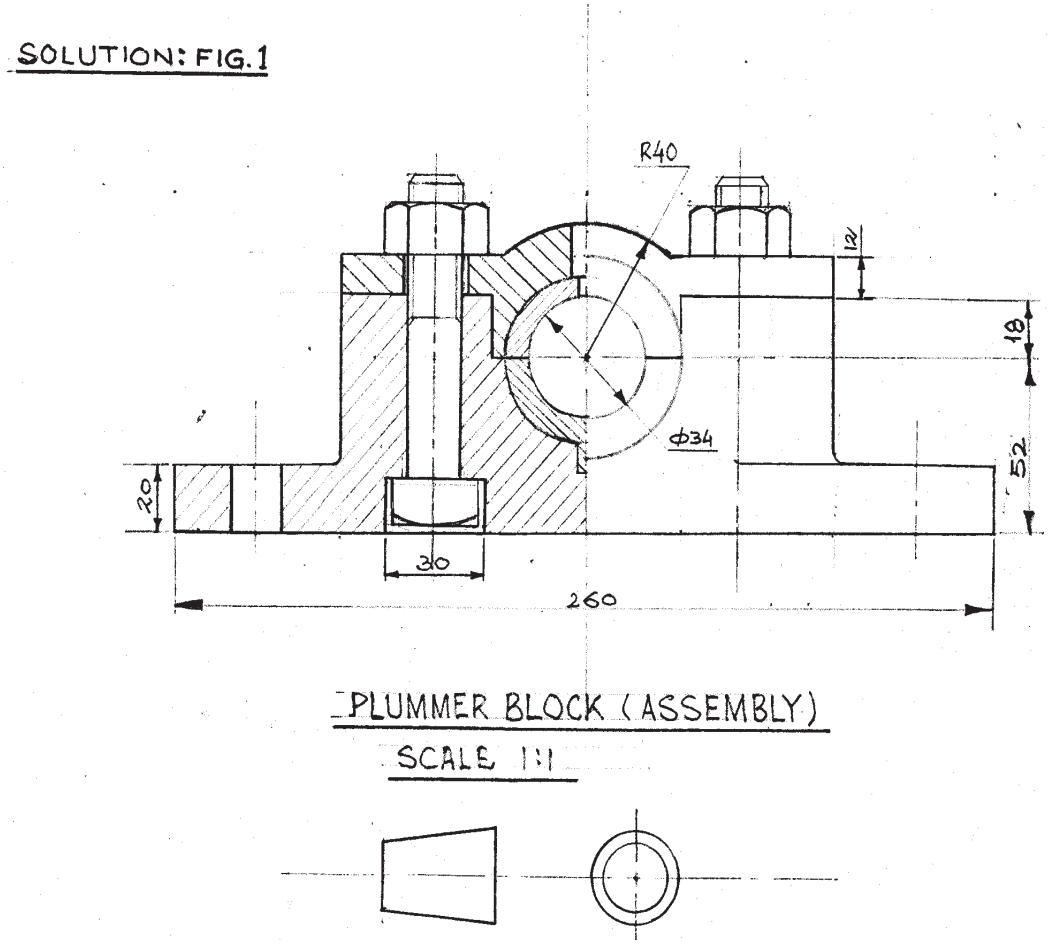


FIG. 3.8

OR

DIS-ASSEMBLY OF SLEEVE AND COTTER JOINT : FIG – 3.9 **28**

(a) SLEEVE

(i) Front View, upper half in section.

Drawing upper half in section.	6
Drawing lower half without section.	3

(ii) Side View 7

(b) COTTER

(i) Front View 3

(ii) Top View 3

(c) OTHERS

Important Dimensions 2

Titles, Symbol of Projection and Scale 4

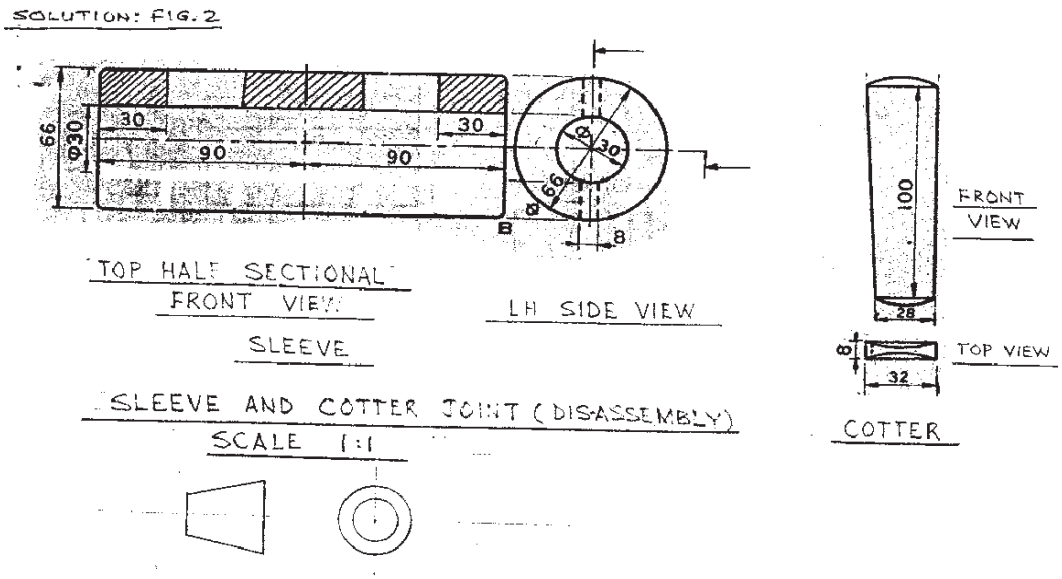


FIG – 3.9

Central Board of Secondary Education
Computer Science (Theory) - Class XII
Subject Code: 083

Blue Print Of Question Paper for 2012 Examinations

S.No.	UNIT	VSA (1 Mark)	SA I (2 Marks)	SA II (3 Marks)	LA (4 Marks)	TOTAL
1	**Review of C++ covered in Class XI**	1 (1)	8 (4)	3 (1)		12 (6)
2	**Object Oriented Programming in C++**					
	a) Introduction to OOP using C++		2 (1)		4 (1)	6 (2)
	b) Constructor & Destructor		2 (1)			2 (1)
	c) Inheritance				4 (1)	4 (1)
3	**Data Structure & Pointers**					
	a) Address Calculation			3 (1)		3 (1)
	b) Static Allocation of Objects		2 (1)	3 (1)		5 (2)
	c) Dynamic Allocation of Objects				4 (1)	4 (1)
	d) Infix & Postfix Expressions		2 (1)			2 (1)
4	**Data File Handling in C++**					
	a) Fundamentals of File Handling	1 (1)				1 (1)
	b) Text File	2 (1)				2 (1)
	c) Binary Files			3 (1)		3 (1)
5	**Databases and SQL**					
	a) Database Concepts		2 (1)			2 (1)
	b) Structured Query Language		2 (1)		4 (1)	6 (2)
6	**Boolean Algebra**					
	a) Introduction to Boolean Algebra & Laws		2 (1)			2 (1)
	b) SOP & POS	1 (1)				1 (1)
	c) Karnaugh Map			3 (1)		3 (1)
	d) Basic Logic Gates		2 (1)			2 (1)

7	**Communication & Open Source Concepts**					
	a) Introduction to Networking	2 (2)				2 (2)
	b) Media,Dvices,Topologies & Protocols				4 (1)	4 (1)
	c) Security	2 (2)				2 (2)
	d) Webservers	1 (1)				1 (1)
	e) Open Source Terminologies	1 (1)				1 (1)
	TOTAL	**9 (9)**	**26 (13)**	**15 (5)**	**20 (5)**	**70 (32)**

Central Board of Secondary Education
Computer Science (Theory) - Class XII
Subject Code: 083
Design of Question Paper 2012 Examinations

Time : 3 hours **Max. Marks: 70**

Weightage of marks over different dimensions of the question paper shall be as follows:

A. Weightage to different topics/content units

S.No	Topics	Marks
1	Review of C++ covered in Class XI	12
2	Object Oriented Programming in C++	12
3	Data Structure & Pointers	14
4	Data File Handling in C++	06
5	Databases and SQL	08
6	Boolean Algebra	08
7	Communication and Open Source Concepts	10
	Total	70

B. Weightage to different forms of questions

S.No	Forms of Questions	Marks for each question	No. of Questions	Total Marks
1	Very Short Answer questions (VSA)	01	09	09
2	Short answer questions - Type I (SA I)	02	13	26
3	Short answer questions - Type II (SA II)	03	05	15
4	Long answer questions (LA)	04	05	20
		Total	32	70

C. Scheme of Options

There will be no overall choice. All questions are compulsory.

D. Difficulty level of questions

- Based on the above design, two sets of sample papers along with their blue prints and Marking schemes have been included in this document.
- About 20% weightage has been assigned to questions testing higher order thinking (HOT) skills of learners.

SAMPLE PAPER - SET I

COMPUTER SCIENCE [CODE-083]

CLASS - XII

Max Time : 3 hours **Max Marks : 70**

1. (a) **Differentiate between the post-increment and pre-increment operators. Also, give a suitable C++ code to illustrate both.** **2**

(b) **Which C++ header file(s) are essentially required to be included to run/execute the following C++ code:** **1**

```
void main()
{
        int Last=25;
        for (int C=9;C<=Last;C++)
        cout<<C<<":"<<sqrt(C)<<endl;
}
```

(c) **Rewrite the following program after removing the syntactical errors (if any). Underline each correction.** **2**

```
#include {iostream.h}
CLASS User
{
long Userid;char Gender;
public:
void Authorize{cin>>Userid>>Gender;}
void Show(){cout<<Userid<<":"<<Gender<<endl;}
};
void main()
{
User U;
U.Authorize();
Show();
}
```

(d) **Find the output of the following program:** **3**

```
#include <iostream.h>
struct STOCK
```

```
{ int Ino, Qty;};
void Buy(STOCK &I, int TQ=2)
{
I.Qty+=TQ;
}
void main()
{
STOCK I[2]={{101,50},{103,20}};
Buy(I[1],5);
cout<<I[1].Ino<<":"<<I[1].Qty<<endl;
Buy(I[0],10);
cout<<I[0].Ino<<":"<<I[0].Qty<<endl;
Buy(I[1]);
cout<<I[1].Ino<<":"<<I[1].Qty<<endl;
}
```

(e) Find the output of the following program: **2**

```
#include <iostream.h>
#include <ctype.h>
void Decode(char Text[])
{
for (int C=0;Text[C];C++)
{
char CH=(Text[C]>='a' && Text[C]<='z')?Text[C]-32:Text[C];
if (CH<='M' && CH>='H')
Text[C]='#';
else if (CH=='A' || CH=='E' || CH=='U')
Text[C]=tolower(CH);
else if (CH>='0' && CH<='9')
Text[C]='$';
else
Text[C]=toupper(CH);
}
}
void main()
{
char SMS[]="US2InDIA";
```

```
Decode(SMS);
cout<<SMS<<endl;
}
```

(f) Observe the following program and find out, which option or options out of (i) to (iv) will not be expected output(s) from the program? What will be the minimum and the maximum value assigned to the variable Sequence, when the value of C is 2? 2

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
int Sequence,Select[4]={25,90,30,45};
randomize();
for (int C=0;C<4;C++)
{
Sequence=random(4-C);
cout<<Select[Sequence]<<"@";
}
}
```

(i) 45@90@30@25@

(ii) 90@25@90@25@

(iii) 30@30@25@25@

(iv) 30@30@90@25@

2. (a) What do you understand by Data Encapsulation and Data Hiding? Also, give a suitable C++ code to illustrate both **2**

(b) Answer the questions (i) and (ii) after going through the following class: **2**

```
class Conference
{
int Duration;//In Hours
public:
Conference()                    //Function 1
{
```

```
Duration=8;cout<<"Inauguration"<<end1;
}
~Conference()                          //Function 2
{
cout<<"Concluding Ceremony"<<end1;
}
void Session(int S=1)                  //Function 3
{
cout<<"Session "<<S<<" is on"<<end1;
}
Conference(int Duration)               //Function 4
{
Time=Duration;cout<<"Inauguration"<<end1;
}
};
```

i) In Object Oriented Programming, what is Function 2 referred as and when does it get invoked/called?

ii) In Object Oriented Programming, which concept is illustrated by Function 1 and Function 4 together? Write an example illustrating the calls for these two functions.

(c) Define a class CARRENTAL in C++ with following description: 4

Private Members

- CarID of type long int
- AboutCar of type string
- Cartype of type string
- Rent of type float
- A member function AssignRent() to assign the following values for Rent as per the given Cartype:

Cartype	Rent
Small	1000
Van	800
SUV	2500

Public Members

- A function GetCar() to allow user to enter values for CarID, AboutCar, Cartype and call function AssignRent() to assign Rent

- A function ShowCar() to allow user to view the content of all the data members

(d) Answer the questions (i) to (iv) based on the following: **4**

```
class PUBLISHER
{
        char Pub[12];
        double Turnover;
protected:
        void Register();
public:
        PUBLISHER();
        void Enter();
        void Display();
};
class BRANCH
{
        char CITY[20];
protected:
        float Employees;
public:
        BRANCH();
        void Haveit();
        void Giveit();
};
class AUTHOR : private BRANCH , public PUBLISHER
{
        int Acode;
        char Aname[20];
        float Amount;
public:
        AUTHOR();
        void Start();
        void Show();
};
```

(i) Write the names of data members, which are accessible from objects belonging to class AUTHOR.

(ii) Write the names of all the member functions which are accessible from objects belonging to class BRANCH.

(iii) Write the names of all the members which are accessible from member functions of class AUTHOR.

(iv) How many bytes will be required by an object belonging to class AUTHOR?

3. (a) Write a function TRANSFER(int A[ ], int B[ ], int Size) in C++ to create the elements of array B[ ] with the help of corresponding elements of array A[ ] i.e. If A[N] is positive number, B[N] should be 1, if A[N] is negative number B[N] should be -1, and if A[N] is zero B[N] should also be 0. 3

For example:

If the content of array A is

-98,56, 0,-23,-34,54

The content of array B should become

-1 , 1, 0, -1, -1, 1

(b) An array P[40][30] is stored in the memory along the row with each of the element occupying 4 bytes and the very first element has the memory location as 4500, find out the following:

(i) Memory location for the element P[10][20],

(ii) Total no. of bytes required by the array P in the memory. 3

(c) Write a function in C++ to perform Insert operation in a static circular Queue containing Players information (represented with the help of an array of structure PLAYER). 4

```
struct PLAYER
{
        long PID;                   //Player ID
        char Pname[20];     //Player Name
};
```

(d) Write a function TRANSFORM(int A[][3], int N, int M) in C++ to swap the elements of first and the last row. 2

(e) Evaluate the following POSTFIX notation. Show status of Stack after every step of evaluation (i.e. after each operator). 2

32, 4, /, 2, *, 12, 3, -, +

4. (a) Observe the program segment given below carefully and answer the questions that follow: 1

```
#include <fstream.h>
class Book
{
int Bno;char Title[20];
public:
void EnterVal() {cin>>Bno; cin.getline(Title,20);}
void ShowVal() {cout<<Bno<<"#"<<Title<<endl;}
};
void Search(int RecNo)
{
fstream File; Book B;
File.open("BOOK.DAT",ios::binary|ios::in);
_____                                    //Statement 1
File.read((char*)&B,sizeof(B));
B.ShowVal();
File.close();
}
void Modify(int RecNo)
{
fstream File; Book B;
File.open("BOOK.DAT",ios::binary|ios::in|ios::out);
B.EnterVal();
_____                                    //Statement 2
File.write((char*)&B,sizeof(B));
File.close();
}
```

(i) Write statement 1 to position the file pointer to the beginning of the desired record to be read, which is sent as parameter of the function (assuming RecNo 1 stands for the first record)

(ii) Write statement 2 to position the file pointer to the beginning of the desired record to be modified, which is sent as parameter of the function (assuming RecNo 1 stands for the first record)

(b) Write a function in C++ to count the word "this"(including "This"/"THIS" too) present in a text file "DIARY.TXT". 2

(c) Write a function in C++ to search for a Toy having a particular ToyCode from a binary file "TOY.DAT" and display its details (Tdetails), assuming the binary file is containing the objects of the following class. 3

```
class TOYSHOP
{
        int Tcode;                                  //Toy Code
        char Tdetails[20];
public:
        int RTcode(){return Tcode;}
        void AddToy(){cin>>Tcode;gets(Tdetails);}
        void DisToy(){cout<<Tcode<<Tdetails<<endl;}
};
```

5. (a) What do you understand by Degree and Cardinality of a table? 2

Consider the following tables ACTIVITY and COACH and answer (b) and (c) parts of this question:

Table: ACTIVITY

ACode	ActivityName	Stadium	ParticipantsNum	PrizeMoney	ScheduleDate
1001	Relay 100x4	Star Annex	16	10000	23-Jan-04
1002	High jump	Star Annex	10	12000	12-Dec-03
1003	Shot Put	Super Power	12	8000	14-Feb-04
1005	Long Jump	Star Annex	12	9000	01-Jan-04
1008	Discuss Throw	Super Power	10	15000	19-Mar-04

Table: COACH

PCode	Name	Acode
1	Ahmad Hussain	1001
2	Ravinder	1008
3	Janila	1001
4	Naaz	1003

(b) Write SQL commands for the flowing statements: **4**

(i) To display the names of all activities with their Acodes in descending order.

(ii) To display sum of PrizeMoney for the Activities played in each of the Stadium separately.

(iii) To display the coach's name and ACodes in ascending order of ACode from the table COACH

(iv) To display the content of all activities for which ScheduleDate is earlier than 01-01-2004 in ascending order of ParticipantsNum.

(c) Give the output of the following SQL queries: **2**

(i) SELECT COUNT(DISTINCT ParticipantsNum) FROM ACTIVITY;

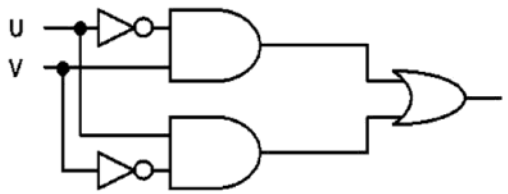
(ii) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM ACTIVITY;

(iii) SELECT Name,ActivityName FROM ACTIVITY A,COACH C
WHERE A.Acode=C.Acode AND A.ParticipantsNum=10;

(iv) SELECT DISTINCT ParticipantsNum FROM ACTIVITY;

6. (a) State and verify De Morgan's Laws using truth table. **2**

(b) Write the equivalent Boolean Expression for the following Logic Circuit **2**



(c) Write the POS form of a Boolean function F, which is represented in a truth table as follows: **1**

U	V	W	F
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1

(d) **Reduce the following Boolean Expression using K-Map:** **3**

$F(A,B,C,D) = \sum (0,1,2,4,5,6,8,10)$

7. a) What is VoIP? 1

b) Anuradha is a web developer. She has designed a login form to input the login id and password of the user. She has to write a script to check whether the login id and the corresponding password as entered by the user are correct or not. What kind of script from the following will be most suitable for doing the same?

(i) JSP

(ii) Client Side Script

(iii) VB Script 1

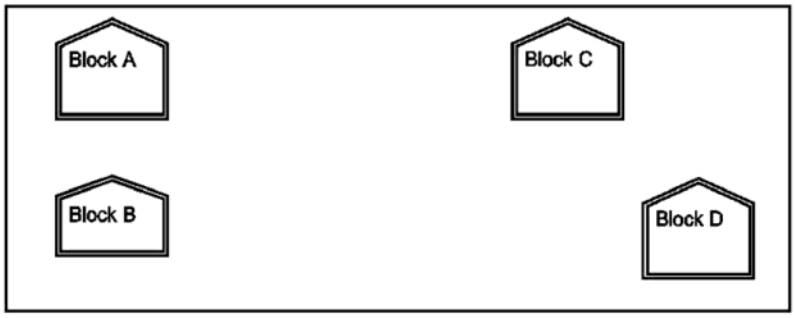
c) Ramanathan's friend Suryansh visited his office for giving an invitation for his wedding. During the visit, he requested Ramanathan to work on his office computer to send an urgent mail. While working on the computer, Suryansh was tempted by seeing some important documents on his desktop and cleverly uploaded them to his Online Folder without taking his consent (Suryansh did not even inform Ramanathan about this). What name from the following would you give to the above act committed by Suryansh?

(i) Trojan

(ii) Cyber Crime

(iii) Virus 1

d) What do you mean by IP Address? How is it useful in Computer Security? 1



e) Knowledge Supplement Organisation has set up its new center at Mangalore for its office and web based activities. It has 4 blocks of buildings as shown in the diagram above: 4

Center to center distances between various blocks

Black A to Block B	**50 m**
Block B to Block C	**150 m**
Block C to Block D	**25 m**
Block A to Block D	**170 m**
Block B to Block D	**125 m**
Block A to Block C	**90 m**

Number of Computers

Black A	**25**
Block B	**50**
Block C	**125**
Block D	**10**

e1) Suggest a cable layout of connections between the blocks.

e2) Suggest the most suitable place (i.e. block) to house the server of this organisation with a suitable reason.

e3) Suggest the placement of the following devices with justification

(i) Repeater

(ii) Hub/Switch

e4) The organization is planning to link its front office situated in the city in a hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed?

f) What do you mean by Spam Mails? How can you protect your mailbox from Spams? 1

g) Mention any two advantages of Open Source Software over Proprietary Software. 1

SAMPLE PAPER – SET I

MARKING SCHEME

COMPUTER SCIENCE [CODE–083]

CLASS – XII

Max Time : 3 hours **Max Marks : 70**

1. (a) Differentiate between the post-increment and pre-increment operators. Also, give a suitable C++ code to illustrate both. **2**

Answer:

Post-increment	Pre-increment
++ is an increment operator to increment the value of a variable by one, when used after the operand it is known as postincrement operator.	When ++ is used before an operand to increment its value by one, it is called a pre-increment operator.

```
#include <iostream.h>
void main()
{
int NUM=9;
cout<<++NUM; //10 will be displayed
cout<<NUM++; //10 will be displayed
cout<<NUM; //11 will be displayed
}
```

(1 Mark for stating the difference)

(1 Mark for the suitable example)

OR

(Full 2 Mark for explanation of differences with the help of an example)

(1 Mark for the example)

(b) Which C++ header file(s) will be essentially required to be included to run/execute the following C++code: 1

```
void main()
{
 int Last=25;
```

```
for (int C=9;C<=Last;C++)
    cout<<C<<":"<<sqrt(C)<<endl;
}
```

Answer:

(i) iostream.h (for cout)	(ii) math.h (for sqrt())

(½ Mark for mentioning each correct header filename)

(c) Rewrite the following program after removing the syntactical errors (if any). Underline each correction. 2

```
#include {iostream.h}
CLASS User
{
long Userid;char Gender;
public:
        void Authorize{cin>>Userid>>Gender;}
        void Show(){cout<<Userid<<":"<<Gender<<endl;}
};
void main()
{
User U;
U.Authorize();
Show();
}
```

Answer:

```
#include <iostream.h>
class User
{
long Userid;char Gender;
public:
        void Authorize(){cin>>Userid>>Gender;}
        void Show(){cout<<Userid<<":"<<Gender<<endl;}
};
void main()
{
User U;
U.Authorize();
U.Show();
}
```

(½ Mark for each correction)

(d) Find the output of the following program: 3

```
#include <iostream.h>
struct STOCK
{ int Ino, Qty;};
void Buy(STOCK &I, int TQ=2)
{
I.Qty+=TQ;
}
void main()
{
STOCK I[2]={{101,50},{103,20}};
Buy(I[1],5);
cout<<I[1].Ino<<":"<<I[1].Qty<<endl;
Buy(I[0],10);
cout<<I[0].Ino<<":"<<I[0].Qty<<endl;
Buy(I[1]);
cout<<I[1].Ino<<":"<<I[1].Qty<<endl;
}
```

Answer:

```
103:25
101:60
103:27
```

(1 Mark for each correct line of output)

Note:

Deduct ½ Mark if any/all endl is/are not considered at correct place(s)

Deduct ½ Mark if any/all of the : symbol(s) is/are missing

(e) Find the output of the following program: **2**

```
#include <iostream.h>
#include <ctype.h>
void Decode(char Text[])
{
        for (int C=0;Text[C];C++)
{
char CH=(Text[C]>='a' && Text[C]<='z')?Text[C]-32:Text[C];
        if (CH<='M' && CH>='H')
        Text[C]='#';
```

```
else if (CH=='A' || CH=='E' || CH=='U')
Text[C]=tolower(CH);
else if (CH>='0' && CH<='9')
Text[C]='$';
else
Text[C]=toupper(CH);
}
};
void main()
{
char SMS[]="US2InDIA";
Decode(SMS);
cout<<SMS<<endl;
}
```

Answer:

uS$#ND#a

(½ Mark for # as 4th and 7th characters)
(½ Mark for $ as 3rd character)
(½ Mark for u as 1st and a as 8th characters)
(½ Mark for S as 2nd, N as 5th and D as 6th characters)

(f) Observe the following program and find out, which option or options out of (i) to (iv) will not be expected output(s) from the program? What will be the minimum and the maximum value assigned to the variable Sequence, when the value of C is 2? 2

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
        int Sequence,Select[4]={25,90,30,45};
        randomize();
        for (int C=0;C<4;C++)
{
        Sequence=random(4-C);
        cout<<Select[Sequence]<<"@";
  }
}
```

(i) 45@90@30@25@
(ii) 90@25@90@25@
(iii) 30@30@25@25@
(iv) 30@30@90@25@

Answer:

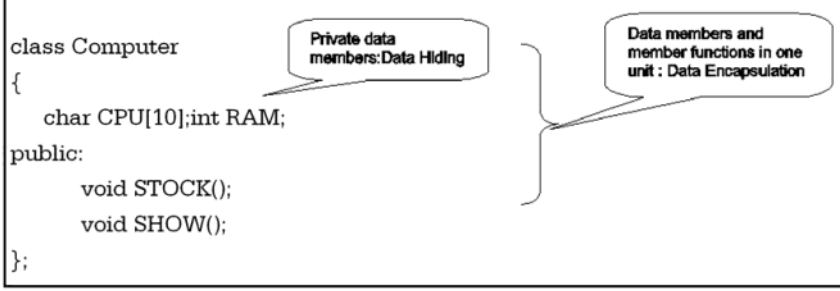
Option (i) will not be the expected output (since when C = 2, Sequence will accept a value as random(2), i.e., either 0 or 1, so the 3rd value can either be 25 or 90, whereas for option (i) the 3rd value given is 30).
When C = 2, Minimum value for Sequence = 0, Maximum value for Sequence =1

(1 Mark for writing the correct unexpected output)
(½ Mark each for correct minimum and maximum values of Sequence)

2.(a) What do you understand by Data Encapsulation and Data Hiding? Also, give a suitable C++ code to illustrate both 2

Answer:

Data Encapsulation: Wrapping up of data and functions together in a single unit is known as Data Encapsulation. In a class, we wrap up the data and functions together in a single unit.
Data Hiding: Keeping the data in private visibility mode of the class to prevent it from accidental change is known as Data Hiding.



(½ Mark each for appropriate definitions)
(1 Mark for appropriate example illustrating both concepts)

(b) Answer the questions (i) and (ii) after going through the following class: 2

```
class Conference
{
        int Duration;//In Hours
public:
```

```
Conference()                    //Function 1
{
  Duration=8;cout<<"Inauguration"<<end1;
}
~Conference()                   //Function 2
{
  cout<<"Concluding Ceremony"<<end1;
}
void Session(int S=1)           //Function 3
{
 cout<<"Session "<<S<<" is on"<<end1;
}
Conference(int Duration)  //Function 4
{
 Time=Duration;cout<<"Inauguration"<<end1;
}
};
```

i) In Object Oriented Programming, what is Function 2 referred as and when does it get invoked/called?

ii) In Object Oriented Programming, which concept is illustrated by Function 1 and Function 4 together? Write an example illustrating the calls for these functions.

i)

Answer:

Destructor, it is invoked itself as soon as the scope of the object gets over.

(½ Mark for mentioning destructor)
(½ Mark for explaining when it is invoked)

ii)

Answer:

Constructor Overloading (or Function Overloading or Polymorphism)	
Conference C1;	//Function 1 gets called
Conference C2(90);	//Function 4 gets called

(½ Mark for mentioning the correct concept)
(½ Mark for the example)

(c) Define a class CARRENTAL in C++ with following description: 4

Private Members

- CarID of type long int
- AboutCar of type string
- Cartype of type string
- Rent of type float
- A member function AssignRent() to assign the following values for Rent as per the given Cartype:

Cartype	Rent
Small	1000
Van	800
SUV	2500

Public Members

- A function GetCar() to allow user to enter values for CarID, AboutCar, Cartype and call function AssignRent() to assign Rent
- A function ShowCar() to allow user to view the content of all the data members

Answer:

```
class CARRENTAL
{
        long int CarID;
        char AboutCar[20];
        char Cartype[6];
        float Rent;
        void AssignRent();
public:
        void GetCar();
        void ShowCar();
};
void CARRENTAL::AssignRent()
{
        if(strcmp(Cartype,"Small")==0)
                Rent=1000;
        else if(strcmp(Cartype,"Van")==0)
                Rent=800;
        else if(strcmp(Cartype,"SUV")==0)
                Rent=2500;
}
void CARRENTAL::GetCar()
```

```
{
        cout<<"Car ID : ";cin>>CarID;
        cout<<"Description      : ";gets(AboutCar);
        cout<<"Car Type         : ";gets(Cartype);
AssignRent();
}
void CARRENTAL::ShowCar()
{
        cout<<"Car ID : "<<CarID<<endl;
        cout<<"Description : "<<AboutCar<<endl;
        cout<<"Car Type : "<<Cartype<<endl;;
        cout<<"Rent : "<<Rent<<endl;;
}
```

(½ Mark for correct syntax for class header)
(½ Mark for correct declarations of data members)
(1 Mark for appropriate definition of function AssignRent())
(1 Mark for appropriate definition of GetCar() with a call for function AssignRent())
(1 Mark for appropriate definition of ShowCar())

(d) Answer the questions (i) to (iv) based on the following: 4

```
class PUBLISHER
{
        char Pub[12];
        double Turnover;
protected:
        void Register();
public:
        PUBLISHER();
        void Enter();
        void Display();
};
class BRANCH
{
        char CITY[20];
protected:
        float Employees;
public:
        BRANCH();
        void Haveit();
        void Giveit();
```

```
};
class AUTHOR : private BRANCH , public PUBLISHER
{
        int Acode;
        char Aname[20];
        float Amount;
public:
        AUTHOR();
        void Start();
        void Show();
};
```

(i) Write the names of data members, which are accessible from objects belonging to class AUTHOR.

Answer:

None of the data members are accessible from objects belonging to class AUTHOR.

(1 Mark for correct answer)

(ii) Write the names of all the member functions, which are accessible from objects belonging to class BRANCH.

Answer:

Haveit(), Giveit()

(1 Mark for correct answer)

Note: No marks to be awarded for any other alternative answer

(iii) Write the names of all the members, which are accessible from member functions of class AUTHOR.

Answer:

Data members: Employees, Acode, Aname, Amount Member function: Register(), Enter(), Display(), Haveit(), Giveit(), Start(), Show(),

(1 Mark for correct answer)

(iv) How many bytes will be required by an object belonging to class AUTHOR?

Answer:

70 bytes

(1 Mark for correct answer)

3.(a) **Write a function TRANSFER(int A[], int B[], int Size) in C++ to create the elements of array B[] with the help of corresponding elements of array A[] i.e. If A[N] is positive number, B[N] should be 1, if A[N] is negative number B[N] should be –1, and if A[N] is zero B[N] should also be 0.** **3**

For example:

If the content of array A is

-98,56, 0,-23,-34,54

The content of array B should become

-1 , 1, 0, -1, -1, 1

Answer:

```
void TRANSFER(int A[],int B[],int Size)
{
        for(int i=0;i<Size;i++)
{
        if (A[i]<0)
                B[i]=-1;
        else if (A[I]>0)
                B[i]=1;
        else
                B[i]=0;
   }
}
```

(½ Mark for correct Function Header)

(1 Mark for correct formation of loop)

(1½ Mark for appropriate conditions and assignments in the loop)

(b) An array P[40][30] is stored in the memory along the row with each of the element occupying 4 bytes and the very first element has the memory location as 4500, find out the following:

(i) Memory location for the element P[10][20],

(ii) Total no. of bytes required by the array P in the memory. 3

Answer:

(i)

```
Given,
W=4
N=40
M=30
```

Base(P)=4500
Row Major Formula:
Loc(P[I][J]) =Base(S)+W*(M*I+J)
Loc(P[10][20]) =4500+4*(30*10+20)
=4500+4*(300+20)
=4500+1280
=5780

(1 Mark for writing correct formula (for row major) OR substituting formula with correct values)
(½ Mark for writing calculation step – at least one step)
(½ Mark for correct address)

(ii)

Total no. of bytes required by the array P = (Total no. of elements in P) x (size of each element in bytes)
= 40 x 30 x 4
= 4800 bytes

(1 Mark for calculating correct number of bytes)

(c) Write a function in C++ to perform Insert operation in a static circular Queue containing Player's information (represented with the help of an array of structure PLAYER). 4

```
struct PLAYER
{
        long PID; //Player ID
        char Pname[20]; //Player Name
};
```

Answer:

```
void QInsert(PLAYER P[], int F, int &R, int Size)
{
        if(R!=F)
        {
                R = (R+1)%Size;
                cin>>P[R].PID;
                gets(P[R].Pname);
        }
        else
        cout<<"Queue Full..."<<endl;
}
```

(1 Mark for correct function header)
(½ Mark for checking overflow)
(½ Mark for displaying overflow error message)
(1 Mark for incrementing Rear correctly for the static circular queue)
(½ Mark for correctly inputting PID of the inserted Player)
(½ Mark for correctly inputting Pname of the inserted Player)

(d) Write a function TRANSFORM(int A[][3], int N, int M) in C++ to swap the elements of first and the last row. 2

Answer:

```
void TRANSFORM(int A[][3], int N, int M)
{
        //assuming N as number of rows
        //assuming M as number of columns
        for (int c=0; c<M; c++)
        {
                int T=A[0][c];
                A[0][c] = A[N-1][c];
                A[N-1][c] = T;
        }
}
```

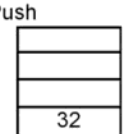
(1 Mark for appropriate loop)
(1 Mark for correct swapping)

(e) Evaluate the following POSTFIX notation. Show status of Stack after every step of evaluation (i.e. after each operator). 2

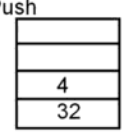
32, 4, /, 2, *, 12, 3, -, +

Answer:

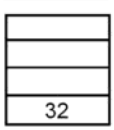
Step 1: Push



Step 2: Push



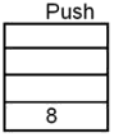
Step 3: /



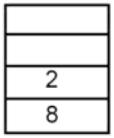
Pop
Op2=4

Pop
Op1=32
Op2=4

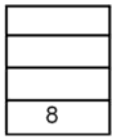
Push



Step 4: Push



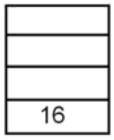
Step 5: *



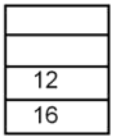
Pop
Op2=2

Pop
Op1=8
Op2=2

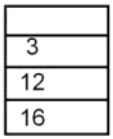
Push



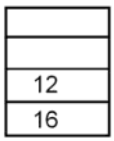
Step 6: Push



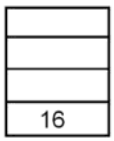
Step 7: Push



Step 8: -

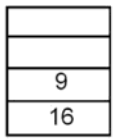


Pop
Op2=3

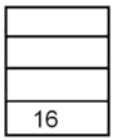


Pop
Op1=12
Op2=3

Push



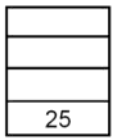
Step 9: +



Pop
Op2=9

Pop
Op1=16
Op2=9

Push



Step 10: Pop

Result
25

(½ Mark for correctly evaluating each operator)

4. (a) **Observe the program segment given below carefully and the questions that follow: 1**

```
#include <fstream.h>
class Book
{
        int Bno;char Title[20];
public:
        void EnterVal() {cin>>Bno; cin.getline(Title,20);
        void ShowVal() {cout<<Bno<<"#"<<Title<<endl;}
};
void Search(int RecNo)
{
        fstream File; Book B;
        File.open("BOOK.DAT",ios::binary|ios::in);
        _____                    //Statement 1
        File.read((char*)&B,sizeof(B));
        B.ShowVal();
        File.close();
}
        void Modify(int RecNo)
{
        fstream File; Book B;
        File.open("BOOK.DAT",ios::binary|ios::in|ios::out);
        B.EnterVal();
        _____//Statement 2
        File.write((char*)&B,sizeof(B));
        File.close();
}
```

(i) Write statement 1 to position the file pointer to the beginning of the desired record to be read, which is sent as parameter of the function (assuming RecNo 1 stands for the first record)

(ii) Write statement 2 to position the file pointer to the beginning of the desired record to be modified, which is sent as parameter of the function (assuming RecNo 1 stands for the first record)

Answer:

(i)	File.seekg((RecNo – 1) * sizeof(B)); //Statement 1
(ii)	File.seekp((RecNo – 1) * sizeof(B)); //Statement 2

(½ Mark for each correct Statement)

(b) Write a function in C++ to count the word "this"(including "This"/"THIS" too) present in a text file "DIARY.TXT". 2

Answer:

```
void WordCount()
{
Fstream File;
File.open("DIARY.TXT", ios::in);
char Word[20];
int Count = 0;
```

```
while(!File.eof())
{
File>>Word;
if (!strcmp(Word,"this")|| !strcmp(Word,"This")||
!strcmp(Word,"THIS"))
Count++;
}
cout<<"Number of this/This/THIS = "<<Count<<endl;
File.close();
}
```

(½ Mark for opening DIARY.TXT correctly)
(½ Mark for initializing the counter and incrementing the counter)
(½ Mark for correctly reading a word from the file)
(½ Mark for comparing the word with the three given alternatives)

(c) Write a function in C++ to search for a Toy having a particular ToyCode from a binary file "TOY.DAT" and display its details (Tdetails), assuming the binary file is containing the objects of the following class. 3

```
class TOYSHOP
{
int Tcode;              //Toy Code
char Tdetails[20];
public:
int RTcode(){return Tcode;}
void AddToy(){cin>>Tcode;gets(Tdetails);}
void DisToy(){cout<<Tcode<<Tdetails<<endl;}
};
```

Answer:

```
void ToySearch(int tc)
{
fstream FIL;
FIL.open("TOY.DAT",ios::binary|ios::in);
TOYSHOP TS;
int Found=0;
while (FIL.read((char*)&TS,sizeof(TS)))
{
if (TS.RTcode()==tc)
{
```

```
TS.DisToy();
Found++;
}
if (Found==0) cout<<"Sorry! Toy not found!!!"<<endl;
FIL.close();
}
```

(½ Mark for passing a code as a parameter or declaring and accepting its value inside the function)
(½ Mark for opening TOY.DAT correctly)
(½ Mark for reading each record from TOY.DAT)
(½ Mark for correct loop / checking end of file)
(½ Mark for comparing Toy code)
(½ Mark for displaying the matching record)

5. (a) What do you understand by Degree and Cardinality of a table? 2

Answer:

Degree: Total number of columns / attributes in a table is known as its Degree.

Cardinality: Total number of rows / tuples in a table is known as its Cardinality

Example:

Table: Employee

Eno	Name	Desig
34	Ankur Singh	Mgr
45	Jatin Dua	Dir
32	Ravina	Mgr
12	Harshit	Acc
01	Raj	Recp
09	Kirti	Mgr

For the above table Degree = 3 and Cardinality = 6

(1 mark for correct explanation of degree)
(1 mark for correct explanation of cardinality)

Consider the following tables ACTIVITY and COACH and answer (b) and (c) parts of this question:

Table: ACTIVITY

ACode	ActivityName	Stadium	Participants Num	Prize Money	Schedule Date
1001	Relay 100x4	Star Annex	16	10000	23-Jan-2004
1002	High jump	Star Annex	10	12000	12-Dec-2003
1003	Shot Put	Super Power	12	8000	14-Feb-2004
1005	Long Jump	Star Annex	12	9000	01-Jan-2004
1008	Discuss Throw	Super Power	10	15000	19-Mar-2004

Table: COACH

PCode	Name	Acode
1	Ahmad Hussain	1001
2	Ravinder	1008
3	Janila	1001
4	Naaz	1003

(b) Write SQL commands for the flowing statements: 4

(i) To display the names of all activities with their Acodes in descending order.

```
SELECT Acode, ActivityName FROM ACTIVITY ORDER BY Acode DESC;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(ii) To display sum of PrizeMoney for the Activities played in each of the Stadium separately.

```
SELECT Stadium, SUM(PrizeMoney) FROM ACTIVITY GROUP BY Stadium;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(iii) To display the coach's name and ACodes in ascending order of ACode from the table COACH

```
SELECT Name, Acode FROM COACH ORDER BY Acode;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(v) To display the content of the Activity table whose ScheduleDate earlier than 01/01/2004 in ascending order of ParticipantsNum.

```
SELECT * FROM ACTIVITY WHERE SchduleDate<'01-Jan-2004' ORDER BY
ParticipantsNum;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(c) Give the output of the following SQL queries: 2

(i) SELECT COUNT(DISTINCT ParticipantsNum) FROM ACTIVITY;

3

(½ Mark for correct output)

(ii) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM ACTIVITY;

MAX(ScheduleDate)	MIN(ScheduleDate)
19-Mar-2004	2-Dec-2003

(½ Mark for correct output)

(iii) SELECT Name, ActivityName FROM ACTIVITY A,COACH C
WHERE A.Acode=C.Acode AND A.ParticipantsNum=10;

NAME	ACTIVITYNAME
Ravinder	Discuss Throw

(½ Mark for correct output)

(iv) SELECT DISTINCT ParticipantsNum FROM ACTIVITY;

10
12
16

(½ Mark for correct output)

6.(a) State and verify Demorgan's Laws using truth table. 2

Answer:

For every X,Y ^{E} B

(i) (X+Y)' = X'.Y'

(ii) (X.Y)' = X' + Y'

Verification

(i)

X	Y	X+Y	(X+Y)'	X'	Y'	X'.Y'
0	0	0	1	1	1	1
0	1	1	0	1	0	0
1	0	1	0	0	1	0
1	1	1	0	0	0	0

Verified

(ii)

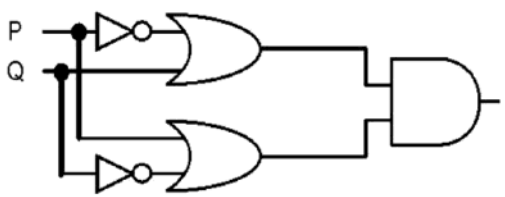
X	Y	X+Y	(X+Y)'	X'	Y'	X'.Y'
0	0	0	1	1	1	1
0	1	0	1	1	0	1
1	0	0	1	0	1	1
1	1	1	0	0	0	0

Verified

(1 Mark for stating the Demorgan's Laws)

(1 Mark for verifying the laws)

(b) Write the equivalent Boolean Expression for the following Logic Circuit **2**



Answer:

F(P,Q)=(P'+Q).(P+Q')

(2 Marks for the final expression)

OR

(1 Mark for any one of the correct terms out of P'+Q or P+Q')

(c) Write the POS form of a Boolean function F, which is represented in a truth table as follows: 1

U	V	W	F
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1

Answer:

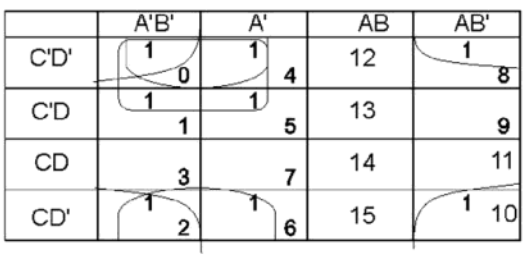
F(U,V,W) = (U+V+W').(U+V'+W').(U'+V+W')

(1 Mark for the correct POS expression)

(d) Reduce the following Boolean Expression using K-Map: 3

F(A,B,C,D)= ∑ (0,1,2,4,5,6,8,10)

Answer:



F(A,B,C,D)=A'C'+A'D'+B'D'

(½ Mark for placing all 1s at correct positions in K-Map)

(½ Mark for each grouping)

(1 Mark for writing final expression in reduced/minimal form)

Note: Deduct ½ mark if wrong variable names are used

7. a) What is VoIP? **1**

Answer:

VoIP is communication protocols and transmission technologies for delivery of voice communications and multimedia sessions over Internet Protocol (IP) networks, such

as the Internet. Also, we can say, VoIP are IP telephony, Internet telephony and broadband telephony.

(1 Mark for correct explanation)

b) Anuradha is a web developer. She has designed a login form to input the login id and password of the user. She has to write a script to check whether the login id and the corresponding password as entered by the user are correct or not. What kind of script from the following will be most suitable for doing the same?
(i) JSP (ii) Client Side Script (iii) VB Script 1

Answer:

(i) JSP

(1 Mark for correct answer)

c) Ramanathan's friend Suryansh visited his office for giving an invitation for his wedding. During the visit, he requested Ramanathan to let him work on his office computer to send an urgent mail. While working on the computer, Suryansh was tempted by seeing some important documents on the desktop and cleverly uploaded them to his Online Folder without taking his friend's consent (Suryansh did not even inform Ramanathan about this). What name from the following would you give to the above act committed by Suryansh?
(i) Trojan (ii) Cyber Crime (iii) Virus 1

Answer:

(ii) Cyber Crime

(1 Mark for correct answer)

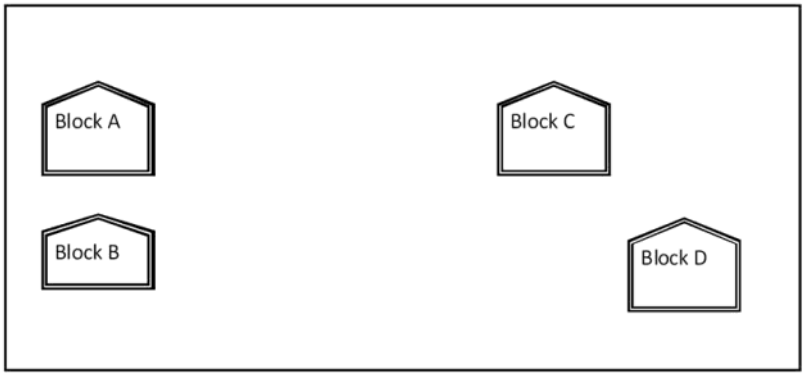
d) What do you mean by IP Address? How is it useful in Computer Security? **1**

Answer:

An Internet Protocol (IP) address is a numerical identification and logical address that is assigned to devices connected in a computer network.
In a network every machine can be identified by a unique IP address associated with it and thus help in providing network security to every system connected in a network.

(½ Mark for meaning of IP Address)
(½ Mark for mentioning the usefulness in network security)

e) Knowledge Supplement Organisation has set up its new center at Mangalore for its office and web based activities. It has 4 blocks of buildings as shown in the diagram below: 4



Center to center distances between various blocks

Black A to Block B	50 m
Block B to Block C	150 m
Block C to Block D	25 m
Block A to Block D	170 m
Block B to Block D	125 m
Block A to Block C	90 m

Number of Computers

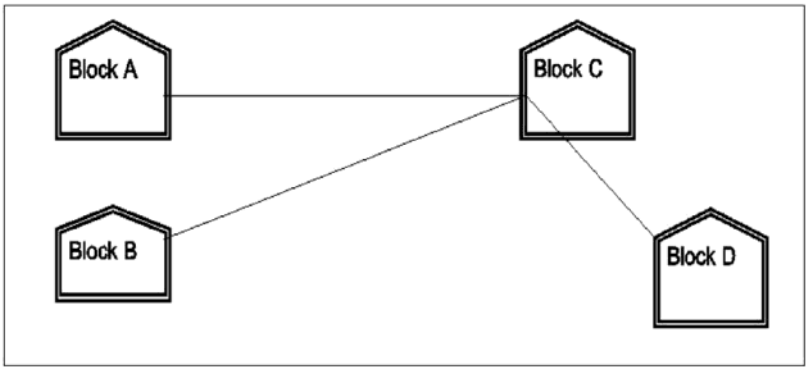
Black A	25
Block B	50
Block C	125
Block D	10

e1) Suggest a cable layout of connections between the blocks.

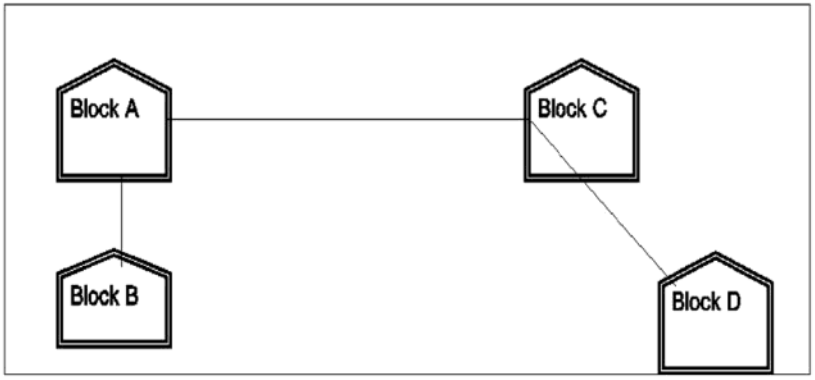
Answers:

(Any of the following option)

Layout Option : 1



Layout Option 2: Since the distance between Block A and Block B is quite short



(1 Mark for showing any of the above suitable cable layout)

e2) Suggest the most suitable place (i.e. block) to house the server of this organisation with a suitable reason.

Answer:

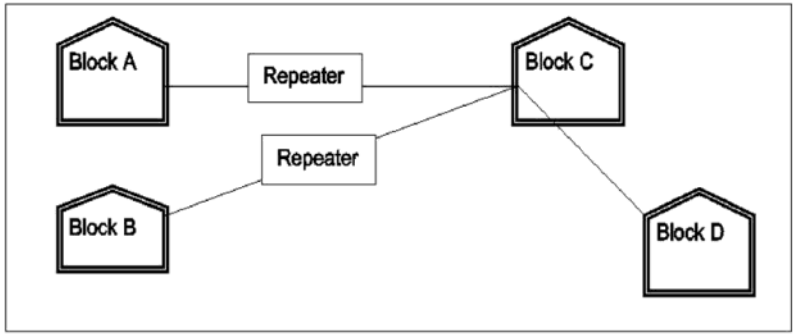
The most suitable place / block to house the server of this organisation would be Block C, as this block contains the maximum number of computers, thus decreasing the cabling cost for most of the computers as well as increasing the efficiency of the maximum computers in the network.

(½ Mark for suggesting suitable place and ½ for appropriate reason)

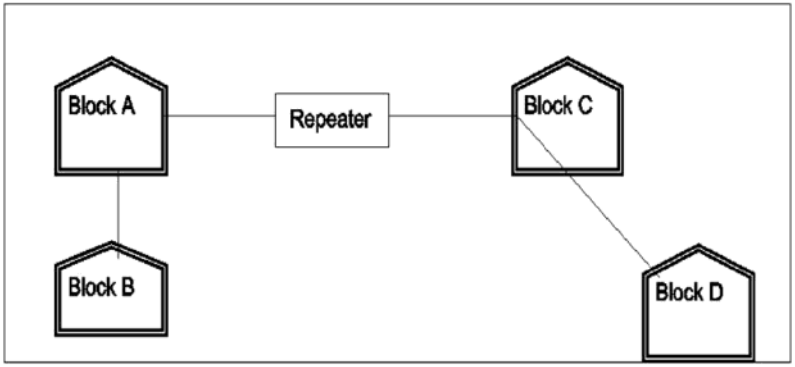
e3) Suggest the placement of the following devices with justification
(i) Repeater
(ii) Hub/Switch

Answer:

(i) For Layout 1, since the cabling distance between Blocks A and C, and that between B and C are quite large, so a repeater each, would ideally be needed along their path to avoid loss of signals during the course of data flow in these routes.



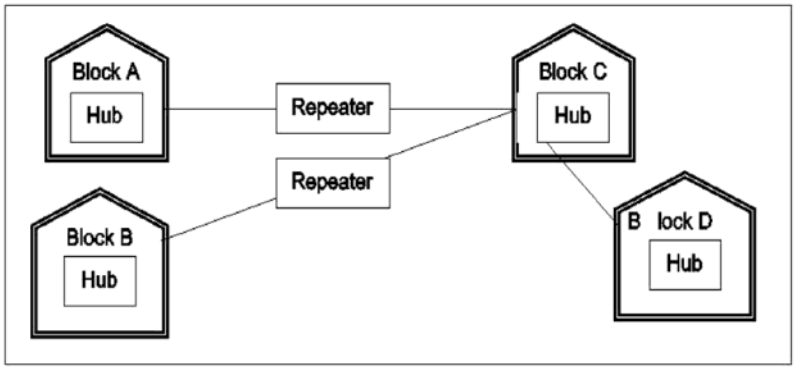
For layout 2, since the distance between Blocks A and C is large so a repeater would ideally be placed in between this path



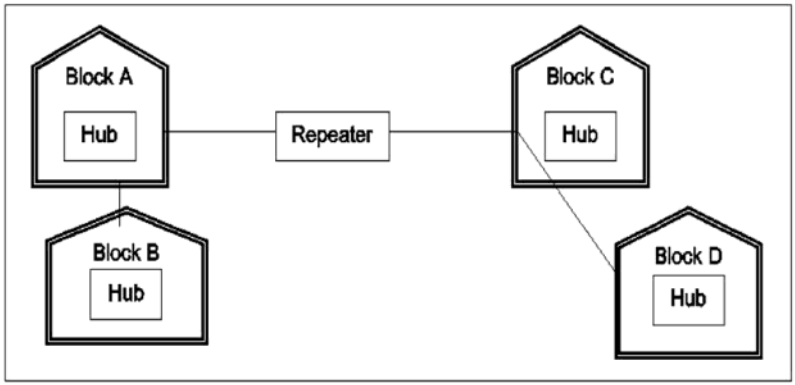
(½ Mark for suggesting suitable place for connecting repeater)

(ii) In both the layouts, a hub/switch each would be needed in all the blocks, to interconnect the group of cables from the different computers in each block

Layout 1



Layout 2



(½ Mark for suggesting suitable place for connecting hub)

e4) The organization is planning to link its front office situated in the city in a hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed?

Answer:

The most economic way to connect it with a reasonable high speed would be to use radio wave transmission, as they are easy to install, can travel long distances, and penetrate buildings easily, so they are widely used for communication, both indoors and outdoors. Radio waves also have the advantage of being omni directional, which is they can travel in all the directions from the source, so that the transmitter and receiver do not have to be carefully aligned physically.

(1 Mark for appropriate answer)

e) What do you mean by Spam Mails? How can you protect your mailbox from Spams? **1**

Answer:

Spam mails, also known as junk e-mail, is a subset of spam that involves nearly identical messages sent to numerous recipients by e-mail. We can protect our mailbox from spams by creating appropriate filters.

(½ Mark for the definition of Spam Mails)
(½ Mark for the appropriate suggestion for protecting mailbox from it)

f) Mention any two advantages of Open Source Software over Proprietary Software. **1**

Answer:

Open Source's proponents often claim that it offers significant benefits when compared to typical Proprietary Software. Proprietary Software typically favour visible features (giving marketing advantage) over harder-to measure qualities such as stability, security and similar less glamorous attributes.
Open Source Software developers are evidently motivated by many factors but favouring features over quality is not noticeable amongst them. For many developers, peer review and acclaim is important, so it's likely that they will prefer to build software that is admired by their peers. Highly prized factors are clean design, reliability and maintainability, with adherence to standards and shared community values preeminent.

(1 Mark for appropriate answer)

SAMPLE PAPER – SET II
COMPUTER SCIENCE [CODE–083]
CLASS – XII

Max Time : 3 hours **Max Marks : 70**

1. (a) What is the difference between Actual Parameter and Formal Parameters? Also, give a suitable C++ code to illustrate both 2

   (b) Write the names of the header files to which the following belong: 1
   (i) exp() (ii) strcmpi()

   (c) Rewrite the following program after removing the syntactical errors (if any). Underline each correction. 2

```
#include <iostream.h>
struct Pixels
{ int Color,Style;}
void ShowPoint(Pixels P)
{ cout<<P.Color,P.Style<<endl;}
void main()
{
    Pixels Point1=(5,3);
    ShowPoint(Point1);
    Pixels Point2=Point1;
    Color.Point1+=2;
    ShowPoint(Point2);
}
```

   (d) Find the output of the following program: 3

```
#include <iostream.h>
void Changethecontent(int Arr[], int Count)
    {
        for (int C=1;C<Count;C++)
            Arr[C-1]+=Arr[C];
    }
    void main()
    {
        int A[]={3,4,5},B[]={10,20,30,40},C[]={900,1200};
        Changethecontent(A,3);
        Changethecontent(B,4);
        Changethecontent(C,2);
        for (int L=0;L<3;L++) cout<<A[L]<<'#';
```

```
        cout<<endl;
        for (L=0;L<4;L++) cout<<B[L] <<'#';
        cout<<endl;
        for (L=0;L<2;L++) cout<<C[L] <<'#';
    }
```

(e) Find the output of the following program: 2

```
#include <iostream.h>
struct Game
{
    char Magic[20];int Score;
};
void main()
{
    Game M={"Tiger",500};
    char *Choice;
    Choice=M.Magic;
    Choice[4]='P';
    Choice[2]='L';
    M.Score+=50;
    cout<<M.Magic<<M.Score<<endl;
    Game N=M;
    N.Magic[0]='A';N.Magic[3]='J';
    N.Score-=120;
    cout<<N.Magic<<N.Score<<endl;
}
```

(f) In the following program, if the value of N given by the user is 20, what maximum and minimum values the program could possibly display? 2

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
    int N,Guessnum;
    randomize();
    cin>>N;
    Guessnum=random(N-10)+10;
    cout<<Guessnum<<endl;
}
```

2. (a) What do you understand by Polymorphism? Give a suitable example of the same. 2

(b) Answer the questions (i) and (ii) after going through the following program:

```
class Match
```

2

```
{
    int Time;
public:
Match()                         //Function 1
{
    Time=0;
    cout<<"Match commences"<<end1;
}
void Details()                  //Function 2
{
    cout<<"Inter Section Basketball Match"<<end1;
}
Match(int Duration)             //Function 3
{
    Time=Duration;
    cout<<"Another Match begins now"<<end1;
}
Match(Match &M) //Function 4
{
    Time=M.Duration;
    cout<<"Like Previous Match "<<end1;
}
};
```

i) Which category of constructor - Function 4 belongs to and what is the purpose of using it?

ii) Write statements that would call the member Functions 1 and 3

(c) Define a class in C++ with following description: 4

Private Members

- A data member Flight number of type integer
- A data member Destination of type string
- A data member Distance of type float
- A data member Fuel of type float
- A member function CALFUEL() to calculate the value of Fuel as per the following criteria

Distance	**Fuel**
<=1000	500
more than 1000 and <=2000	1100
more than 2000	2200

Public Members

- A function FEEDINFO() to allow user to enter values for Flight Number, Destina

tion, Distance & call function CALFUEL() to calculate the quantity of Fuel

- A function SHOWINFO() to allow user to view the content of all the data members

(d) Answer the questions (i) to (iv) based on the following: 4

```
class CUSTOMER
{
    int Cust_no;
    char Cust_Name[20];
protected:
    void Register();
public:
    CUSTOMER();
    void Status();
};
class SALESMAN
{
    int Salesman_no;
    char Salesman_Name[20];
protected:
    float Salary;
public:
    SALESMAN();
    void Enter();
    void Show();
};
class SHOP : private CUSTOMER , public SALESMAN
{
    char Voucher_No[10];
    char Sales_Date[8];
public:
    SHOP();
    void Sales_Entry();
    void Sales_Detail();
};
```

(i) Write the names of data members which are accessible from objects belonging to class CUSTOMER.

(ii) Write the names of all the member functions which are accessible from objects belonging to class SALESMAN.

(iii) Write the names of all the members which are accessible from member functions of class SHOP.

(iv) How many bytes will be required by an object belonging to class SHOP?

3 (a) Write a function in C++ to combine the contents of two equi-sized arrays A and B by adding their corresponding elements as the formula A[i]+B[i]; where value i varies from 0 to N-1 and transfer the resultant content in the third same sized array C. 3

(b) An array P[20][30] is stored in the memory along the column with each of the element occupying 4 bytes, find out the Base Address of the array, if an element P[2][20] is stored at the memory location 5000. 3

(c) Write a function in C++ to perform Push operation on a dynamically allocated Stack containing real numbers. 4

(d) Write a function in C++ to find sum of each row for a two dimensional integer array having 3 rows and 4 columns which is passed as parameter of the function. 2

(e) Evaluate the following postfix notation of expression showing the stack contents for each step of evaluation: 2

True, False, AND, True, True, NOT, OR, AND

4. (a) Observe the program segment given below carefully and answer the questions that follow: fill the blanks marked as Statement 1 and Statement 2 using seekg() and tellg() functions for performing the required task. 1

```
#include <fstream.h>
class Employee
{
    int Eno;char Ename[20];
public:
    void Input() {cin>>Eno; cin.getline(Ename,20); }
    void Display() {cout<<Eno<<"#"<<Ename<<endl; }
};
int Countrec()
{
    fstream File;
    Employee E;
    File.open("EMP.DAT",ios::binary|ios::in);
    _____ //Statement 1
    int Bytes = _____ //Statement 2
    int Count = Bytes / size of (Item);
    File.close();
    return Count;
}
```

(i) Write statement 1 to position the file pointer to the end of the file.

(ii) Write statement 2 to return the number of bytes from the beginning of the file to the current position of the file pointer.

(b) Write a function in C++ to count the number of alphabets present in a text file "NOTES.TXT". 2

(c) Write a function in C++ to add new objects at the bottom of a binary file "STUDENT.DAT", assuming the binary file is containing the objects of the following class. 3

```
class STUD
{
    int Rno;
    char Name[20];
public:
    void Enter(){cin>>Rno;gets(Name);}
    void Display(){cout<<Rno<<Name<<endl;}
};
```

5. (a) What do you understand by the Union and Cartesian Product operations performed upon two relations? 2

Consider the following tables GAMES and PLAYER and answer (b) and (c) parts of this question:

Table: GAMES

GCode	GameName	Type	Number	PrizeMoney	Schedule Date
101	Carom Board	Indoor	2	5000	23-Jan-2004
102	Badminton	Outdoor	2	12000	12-Dec-2003
103	Table Tennis	Indoor	4	8000	14-Feb-2004
105	Chess	Indoor	2	9000	01-Jan-2004
108	Lawn Tennis	Outdoor	4	25000	19-Mar-2004

Table: PLAYER

PCode	Name	Gcode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	103

(b) Write SQL commands for the flowing statements: 4

(i) To display the name of all GAMES with their GCodes

(ii) To display details of those GAMES which are having PrizeMoney more than 7000.

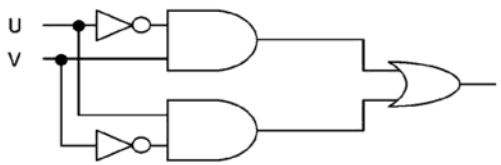
(iii) To display the content of the GAMES table in ascending order of ScheduleDate.
(iv) To display sum of PrizeMoney for each Type of GAMES

(c) Give the output of the following SQL queries: 2

(i) SELECT COUNT(DISTINCT Number) FROM GAMES;
(ii)SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM GAMES;
(ii) SELECT Name, GameName FROM GAMES G, PLAYER P
WHERE G.Gcode=P.Gcode AND G.PrizeMoney>10000;
(iv) SELECT DISTINCT Gcode FROM PLAYER;

6. (a) State and algebraically verify Absorption Laws. 2

(b) Write the equivalent Boolean Expression for the following Logic Circuit 2



(c) Write the SOP form of a Boolean function G, which is represented in a truth table as follows: 1

P	Q	R	G
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1

(d) Reduce the following Boolean Expression using K-Map: 3
F(U,V,W,Z)= π (0,1,2,4,5,6,8,10)

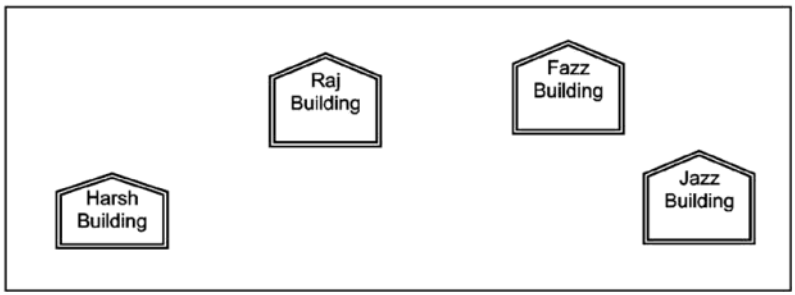
7. a) Define the term Bandwidth. Give any one unit of Bandwidth. 1

b) When do you prefer XML over HTML and why? 1

c) How firewall protect our Network? 1

d) What is the importance of URL in networking? 1

e) Ravya Industries has set up its new center at Kaka Nagar for its office and web based activities. The company compound has 4 buildings as shown in the diagram below: 4



Center to center distances between various buildings is as follows:

Harsh Building to Raj Building	50 m
Raj Building to Fazz Building	60 m
Fazz Building to Jazz Building	25 m
Jazz Building to Harsh Building	170 m
Harsh Building to Fazz Building	125 m
Raj Building to Jazz Building	90 m

Number of Computers in each of the buildings is follows:	
Harsh Building	15
Raj Building	150
Fazz Building	15
Jazz Bulding	25

e1) Suggest a cable layout of connections between the buildings.

e2) Suggest the most suitable place (i.e. building) to house the server of this organisation with a suitable reason.

e3) Suggest the placement of the following devices with justification:

(i) Internet Connecting Device/Modem

(ii) Switch

e4) The organisation is planning to link its sale counter situated in various parts of the same city, which type of network out of LAN, MAN or WAN will be formed? Justify your answer.

f) Compare freeware and Shareware. 1

g) How Trojan Horses are different from Worms? Mention any one difference. 1

SAMPLE PAPER – SET II
MARKING SCHEME
COMPUTER SCIENCE [CODE–083]
CLASS – XII

Max Time : 3 hours **Max Marks : 70**

1. (a) What is the difference between Actual Parameter and Formal Parameters? Also, give a suitable C++ code to illustrate both. 2

Answer:

Actual Parameter	Formal Parameter
It is a parameter, which is used in function call to send the value from calling environment	It is a parameter, which is used in function header, to receive the value from actual parameter

```
#include <iostream.h>
void Calc(int T)                    //T is formal parameter
{
    cout<<5*T;
}
void main()
{
    int A=45;
    Calc(A); //A is actual parameter
}
```

(1 Mark for stating the difference)
(1 Mark for the suitable example)

OR

(Full 2 Mark for explanation of differences with the help of an example)
(1 Mark for the example)

(b) Write the names of the header files to which the following belong: 1

(i) exp() (ii) strcmpi()

Answer:

(i) math.h	(ii) string.h

(½ Mark for mentioning each correct header filename)

(c) Rewrite the following program after removing the syntactical errors (if any). Underline each correction. 2

```
#include <iostream.h>
struct Pixels
{ int Color,Style;}
void ShowPoint(Pixels P)
{ cout<<P.Color,P.Style<<endl;}
void main()
{
    Pixels Point1=(5,3);
    ShowPoint(Point1);
    Pixels Point2=Point1;
    Color.Point1+=2;
    ShowPoint(Point2);
}
```

Answer:

```
#include <iostream.h>
struct Pixels
{ int Color,Style;};
void ShowPoint(Pixels P)
{ cout<<P.Color<<P.Style<<endl;}
void main()
{
    Pixels Point1={5,3};
    ShowPoint(Point1);
    Pixels Point2=Point1;
    Point1.Color+=2;
    ShowPoint(Point2);
}
```

(½ Mark for each correction)

(d) Find the output of the following program: 3

```
#include <iostream.h>
void Changethecontent(int Arr[], int Count)
{
    for (int C=1;C<Count;C++)
            Arr[C-1]+=Arr[C];
}
void main()
{
    int A[]={3,4,5},B[]={10,20,30,40},C[]={900,1200};
    Changethecontent(A,3);
    Changethecontent(B,4);
```

```
    Changethecontent(C,2);
    for (int L=0;L<3;L++) cout<<A[L]<<'#';
    cout<<endl;
    for (L=0;L<4;L++) cout<<B[L] <<'#';
    cout<<endl;
    for (L=0;L<2;L++) cout<<C[L] <<'#';
}
```

Answer:

```
7#9#5#
30#50#70#40#
2100#1200
```

(1 Mark for each correct line of output)

Note:

Deduct ½ Mark if any/all endl is/are not considered at correct place(s)

Deduct ½ Mark if any/all of the # symbol(s) is/are missing

(e) Find the output of the following program: 2

```
#include <iostream.h>
struct Game
{
    char Magic[20];int Score;
};
void main()
{
    Game M={"Tiger",500};
    char *Choice;
    Choice=M.Magic;
    Choice[4]='P';
    Choice[2]='L';
    M.Score+=50;
    cout<<M.Magic<<M.Score<<endl;
    Game N=M;
    N.Magic[0]='A';N.Magic[3]='J';
    N.Score-=120;
    cout<<N.Magic<<N.Score<<endl;
}
```

Answer:

```
TiLeP550
AiLJP430
```

(1 Mark for each correct line of output)

Note:

Deduct ½ Mark if any/all endl is/are not considered at correct place(s)

Deduct ½ Mark if any/all of the : symbol(s) is/are missing

(f) In the following program, if the value of N given by the user is 20, what maximum and minimum values the program could possibly display? 2

```
#include <iostream.h>
#include <stdlib.h>
void main()
{
    int N,Guessnum;
    randomize();
    cin>>N;
    Guessnum=random(N-10)+10;
    cout<<Guessnum<<endl;
}
```

Answer:

Maximum value =19 , Minimum value = 10

(1 Mark each for correct minimum and maximum values)

2. (a) What do you understand by Polymorphism? Give a suitable example of the same. 2

Answer:

Polymorphism: It is a method of using the same operator or function (method) to work using different set of inputs. Function overloading is one of the examples of polymorphism, where more than one function carrying same name behave differently with different set of parameters passed to them.

```
void Display()
{
    cout<<"Hello!"<<endl;
}
    void Display(int N)
{
    cout<<2*N+5<<endl;
}
```

(1 Mark for appropriate definition)

(1 Mark for appropriate example)

(b) Answer the questions (i) and (ii) after going through the following program: 2

```
class Match
{
    int Time;
public:
Match()          //Function 1
```

```
{
Time=0;
cout<<"Match commences"<<end1;
}
void Details() //Function 2
{
    cout<<"Inter Section Basketball Match"<<end1;
}
Match(int Duration)              //Function 3
{
    Time=Duration;
    cout<<"Another Match begins now"<<end1;
}
Match(Match &M) //Function 4
{
    Time=M.Duration;
    cout<<"Like Previous Match "<<end1;
}
};
```

i) Which category of constructor - Function 4 belongs to and what is the purpose of using it?

ii) Write statements that would call the member Functions 1 and 3

i)

Answer:

Copy constructor, It will help to copy the data from one object to another.

(½ Mark for mentioning copy constructor)

(½ Mark for explaining the purpose)

ii)

Answer:

```
Match M; //Function 1
Match N(10); //Function 3
```

(½ Mark for each statement)

(c) Define a class in C++ with following description: 4

Private Members

- A data member Flight number of type integer
- A data member Destination of type string
- A data member Distance of type float
- A data member Fuel of type float

- A member function CALFUEL() to calculate the value of Fuel as per the following criteria

Distance	Fuel
<=1000	500
more than 1000 and <=2000	1100
more than 2000	2200

Public Members

- A function FEEDINFO() to allow user to enter values for Flight Number, Destination, Distance & call function CALFUEL() to calculate the quantity of Fuel
- A function SHOWINFO() to allow user to view the content of all the data members

Answer:

```
class FLIGHT
{
    int Fno;
    char Destination[20];
    float Distance, Fuel;
    void CALFUEL();
public:
    void FEEDINFO();
void SHOWINFO();
};
void FLIGHT::CALFUEL()
{
    if (Distance<=1000)
    Fuel=500;
else
    if (Distance<=2000)
    Fuel=1100;
else
Fuel=2200;
}
void FLIGHT::FEEDINFO()
{
    cout<<"Flight No :";cin>>Fno;
    cout<<"Destination :";gets(Destination);
    cout<<"Distance :";cin>>Distance;
    CALFUEL();
}
void FLIGHT::SHOWINFO()
{
    cout<<"Flight No :"<<Fno<<endl;
    cout<<"Destination :"<<Destination<<endl;
    cout<<"Distance :"<<Distance<<endl;
```

```
cout<<"Fuel :"<<Fuel<<endl;
}
```

(½ Mark for correct syntax for class header)
(½ Mark for correct declarations of data members)
(1 Mark for appropriate definition of function CALFUEL())
(1 Mark for appropriate definition of FEEDINFO() with a call for function CALFUEL())
(1 Mark for appropriate definition of SHOWINFO())

(d) Answer the questions (i) to (iv) based on the following: 4

```
class CUSTOMER
{
    int Cust_no;
    char Cust_Name[20];
protected:
    void Register();
public:
    CUSTOMER();
    void Status();
};
class SALESMAN
{
    int Salesman_no;
    char Salesman_Name[20];
protected:
    float Salary;
public:
    SALESMAN();
    void Enter();
    void Show();
};
class SHOP : private CUSTOMER , public SALESMAN
{
    char Voucher_No[10];
    char Sales_Date[8];
public:
SHOP();
    void Sales_Entry();
    void Sales_Detail();
};
```

(i) Write the names of data members which are accessible from objects belonging to class CUSTOMER.

Answer:

None of the data members are accessible from objects belonging to class CUSTOMER.

(1 Mark for correct answer)

(ii) Write the names of all the member functions which are accessible from objects belonging to class SALESMAN.

Answer:

Enter(), Show()

(1 Mark for correct answer)

Note:

No marks to be awarded for any other alternative answer

(iii) Write the names of all the members which are accessible from member functions of class SHOP.

Answer:

Data members: Voucher_No, Sales_Date, Salary Member function: Sales_Entry(),Sales_Detail(),Enter(),Show(),Register(),Status()

(1 Mark for correct answer)

(iv) How many bytes will be required by an object belonging to class SHOP?

Answer:

66 bytes

(1 Mark for correct answer)

3. (a) Write a function in C++ to combine the contents of two equi-sized arrays A and B by adding their corresponding elements as the formula A[i]+B[i]; where value i varies from 0 to N-1 and transfer the resultant content in the third same sized array C. 3

Answer:

```
void AddNSave(int A[ ],int B[ ],int C[ ],int N)
{
for (int i=0;i<N;i++)
C[i]=A[i]+B[i];
}
```

(1 Mark for correct Function Header with appropriate parameters)

(1 Mark for appropriate loop)

(1 Mark for correct expression for addition of corresponding elements)

(i) An array P[20][30] is stored in the memory along the column with each of the

element occupying 4 bytes, find out the Base Address of the array, if an element P[2][20] is stored at the memory location 5000. 3

Answer:

Given,
W=4
N=20
M=30
Loc(P[2][20])=5000
Column Major Formula:
Loc(P[I][J]) =Base(P)+W*(N*J+I)
Loc(P[2][20]) =Base(P)+4*(20*20+2)
Base(P) =5000 -4*(400+2)
=5000-1608
=3392

(1 Mark for writing correct formula (for column major) OR substituting formula with correct values)
(1 Mark for writing calculation step – at least one step)
(1 Mark for correct address)

(ii) Write a function in C++ to perform Push operation on a dynamically allocated stack containing real numbers. 4

Answer:

```
struct NODE
{
    float Data; NODE *Link;
};
class STACK
{
    NODE *Top;
    public:
    STACK();
    void Push();
    void Pop();
    void Display();
    ~STACK();
};
void STACK::Push()
{
```

```
    NODE *Temp;
    Temp=new NODE;
    cin>>Temp->Data;
    Temp->Link=Top;
Top=Temp;
}
```

(1 Mark for declaring Temp pointer)
(1 Mark for creating a new node and assigning/entering appropriate values in it)
(1 Mark for connecting link part of new node to top)
(1 Mark for assigning Top as the new node i.e. Temp)

(iii) Write a function in C++ to find sum of each row for a two dimensional integer array having 3 rows and 4 columns which is passed as parameter of the function. 2

Answer:

```
void MatAdd(int M[][4],int N,int M)
{
    for (int R=0;R<N;R++)
{
    int SumR=0;
    for (int C=0;C<M;C++)
    SumR+=M[R][C];
    cout<<SumR<<endl;
}
}
```

(½ Mark for correct function header)
(½ Mark for appropriate outer loop)
(½ Mark for appropriate inner loop)
(½ Mark for correctly initializing SumR and calculating the sum)

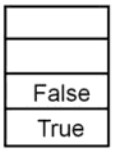
(iv) Evaluate the following postfix notation of expression showing the stack contents for each step of evaluation: 2

True, False, AND, True, True, NOT, OR, AND

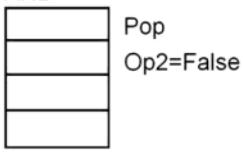
Answer:

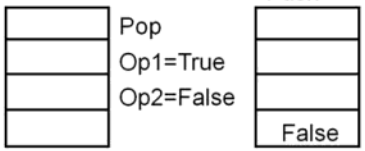
Step 1: Push

Step 2: Push

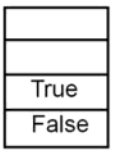


Step 3: AND

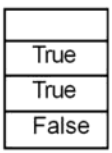




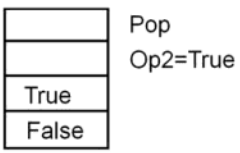
Step 4: Push



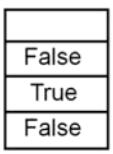
Step 5: Push



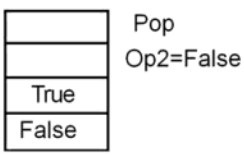
Step 6: NOT

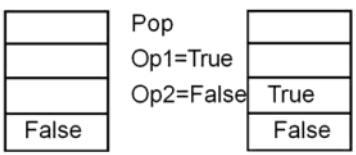


Push

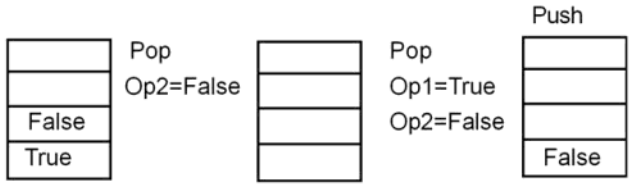


Step 7: OR

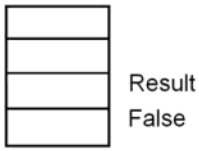




Step 8: AND



Step 9: Pop



(½ Mark for correctly evaluating each operator)

4. (a) Observe the program segment given below carefully and answer the questions that follow: fill the blanks marked as Statement 1 and Statement 2 using seekg() and tellg() functions for performing the required task. 1

```
#include <fstream.h>
class Employee
{
    int Eno;char Ename[20];
public:
    void Input() {cin>>Eno; cin.getline(Ename,20); }
    void Display() {cout<<Eno<<"#"<<Ename<<endl; }
};
int Countrec()
{
    fstream File;
    Employee E;
    File.open("EMP.DAT",ios::binary|ios::in);
    _____ //Statement 1
    int Bytes = _____ //Statement 2
    int Count = Bytes / sizeof(Item);
    File.close();
    return Count;
}
```

(i) Write statement 1 to position the file pointer to the end of the file.

(ii) Write statement 2 to return the number of bytes from the beginning of the file to the current position of the file pointer.

Answer:

```
(i) File.seekg(0,ios::end); //Statement 1
(ii) File.tellg(); //Statement 2
```

(½ Mark for each correct Statement)

(b) Write a function in C++ to count the number of alphabets present in a text file "NOTES.TXT". 2

Answer:

```
void CountAlphabet()
{
    ifstream FIL("NOTES.TXT");
    int CALPHA=0;
    char CH=FIL.get();
    while (!FIL.eof())
    {
            if (isalpha(CH))
            CALPHA++;
            CH=FIL.get();
    }
    cout<<"No. of Alphabets:"<<CALPHA<<endl;
}
```

(½ Mark for opening NOTES.TXT correctly)
(½ Mark for initializing the counter and incrementing the counter)
(½ Mark for correctly reading a character from the file)
(½ Mark for checking for the alphabet)

(c) Write a function in C++ to add new objects at the bottom of a binary file "STUDENT.DAT", assuming the binary file is containing the objects of the following class. 3

```
class STUD
{
    int Rno;
    char Name[20];
public:
    void Enter(){cin>>Rno;gets(Name);}
    void Display(){cout<<Rno<<Name<<endl;}
};
```

Answer:

```
void Addnew()
{
        fstream FIL;
        FIL.open("STUDENT.DAT",ios::binary|ios::app);
        STUD S;
        char CH;
        do
    {
        S.Enter();
        FIL.write((char*)&S,sizeof(S));
        cout<<"More(Y/N)?";cin>>CH;
        }while(CH!='Y');
        FIL.close();
}
```

(½ Mark for opening STUDENT.DAT correctly)
(½ Mark for user input for the new object)
(1 Mark for appropriate loop)
(1 Mark for writing the record on to the binary file)

5. (a) What do you understand by the Union and Cartesian Product operations performed upon two relations? 2

Answer:

The relational operator Union (U) can be applied to two relations if their degree (attributes) is same. The resultant relation consists of the tuples of both the relations. However the duplicate tuples are eliminated.
If two relations do not have common attribute names then the relations are called Product compatible. The resultant relation is in fact a concatenation of each tuple of A with each tuple of B.

(1 Mark each for the explanation of both the concepts)

Consider the following tables GAMES and PLAYER and answer (b) and (c) parts of this question:

Table: GAMES

GCode	GameName	Type	Number	PrizeMoney	ScheduleDate
101	Carom Board	Indoor	2	5000	23-Jan-2004
102	Badminton	Outdoor	2	12000	12-Dec-2003
103	Table Tennis	Indoor	4	8000	14-Feb-2004
105	Chess	Indoor	2	9000	01-Jan-2004
108	Lawn Tennis	Outdoor	4	25000	19-Mar-2004

Table: PLAYER

PCode	Name	Gcode
1	Nabi Ahmad	101
2	Ravi Sahai	108
3	Jatin	101
4	Nazneen	103

(b) Write SQL commands for the flowing statements: 4

(i) To display the name of all GAMES with their GCodes

Answer:

```
SELECT GameName,Gcode FROM GAMES;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(ii) To display details of those GAMES which are having PrizeMoney more than 7000.

Answer:

```
SELECT * FROM Games WHERE Prizemoney>7000;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(iii) To display the content of the GAMES table in ascending order of ScheduleDate.

Answer:

```
SELECT * FROM Games ORDER BY ScheduleDate;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(v) To display sum of PrizeMoney for each Type of GAMES

Answer:

```
SELECT SUM(Prizemoney),Type FROM Games GROUP BY Type;
```

(1 Mark for correct query)

OR

(½ Mark for partially correct answer)

(c) Give the output of the following SQL queries: 2

(i) SELECT COUNT(DISTINCT Number) FROM GAMES;

Answer:2

(½ Mark for correct output)

(ii) SELECT MAX(ScheduleDate),MIN(ScheduleDate) FROM GAMES;

Answer:

MAX(ScheduleDate)	MIN(ScheduleDate)
19-Mar-2004	12-Dec-2003

(½ Mark for correct output)

(iii) SELECT Name, GameName FROM GAMES G, PLAYER P WHERE G.Gcode=P.Gcode AND G.PrizeMoney>10000;

Answer:

Ravi Sahai	Lawn Tennis

(½ Mark for correct output)

(iv) SELECT DISTINCT Gcode FROM PLAYER;

Answer:

101

108

103

(½ Mark for correct output)

6. (a) State and algebraically verify Absorption Laws. 2

Answer:

For every X,Y ∈ B

(i) X+X.Y = X

(ii) X + X'.Y = X + Y

Verification:

(i) X + X.Y = X

L.H.S. = X + X.Y

= X.1 + X.Y

=X.(1+Y)

=X.1

=X

=R.H.S.

(ii) X + X'.Y = X + Y

L.H.S. = X + X'.Y

= (X + X').(X + Y)

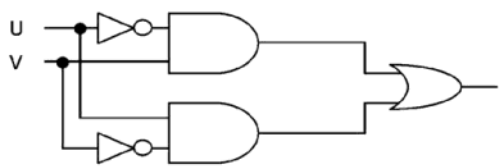
= 1. (X + Y)

= X + Y

= R.H.S.

(1 Mark for stating the Absorption Laws)

(1 Mark for verifying the laws)



(b) Write the equivalent Boolean Expression for the following Logic Circuit 2

Answer:

F(U,V)=(U'.V) + (U.V')

(2 Marks for the final expression)

OR

(1 Mark for any one of the correct terms out of U'V or UV')

(i) Write the SOP form of a Boolean function G, which is represented in a truth table as follows: 1

P	Q	R	G
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	1

Answer:

F(P,Q,R) = P.'Q.'R.' + P.Q'R' + P.Q.R' + P.Q.R

(1 Mark for the correct SOP expression)

(ii) Reduce the following Boolean Expression using K-Map: 3

F(U,V,W,Z)= π (0,1,2,4,5,6,8,10)

Answer:

	U'V'	U'V	UV	UV'
W'Z'	0	4	1 12	8
W'Z	1	5	1 13	1 9
WZ	1 3	1 7	1 15	1 11
WZ'	2	6	1 14	10

F(U,V,W,Z)=U.V + W.Z + U.Z

(½ Mark for placing all 1s at correct positions in K-Map)

(½ Mark for each grouping)

(1 Mark for writing final expression in reduced/minimal form)

Note: Deduct ½ mark if wrong variable names are used

7. a) Define the term Bandwidth. Give any one unit of Bandwidth. 1

Answer:

Bandwidth is referred to the volume of information per unit of time that a transmission medium (like an Internet connection) can handle.

OR

The amount of data that can be transmitted in a fixed amount of time is known as bandwidth.

For digital devices, the bandwidth is usually expressed in bits per second(bps) or

bytes per second. For analog devices, the bandwidth is expressed in cycles per second, or Hertz (Hz).

(1 Mark for correct definition)

(1 Mark for any one correct unit)

b) When do you prefer XML over HTML and why? 1

Answer:

The first benefit of XML is that because you are writing your own markup language, you are not restricted to a limited set of tags defined by proprietary vendors.

Rather than waiting for standards bodies to adopt tag set enhancements (a process which can take quite some time), or for browser companies to adopt each other's standards (yeah right!), with XML, you can create your own set of tags at your own pace.

(1 Mark for appropriate explanation)

c) How firewall protects our Network? 1

Answer:

A firewall is a part of a computer system or network that is designed to block unauthorized access while permitting authorized communications. It is a device or set of devices configured to permit, deny, encrypt, decrypt, or proxy all (in and out) computer traffic between different security domains based upon a set of rules and other criteria.

(1 Mark for appropriate explanation)

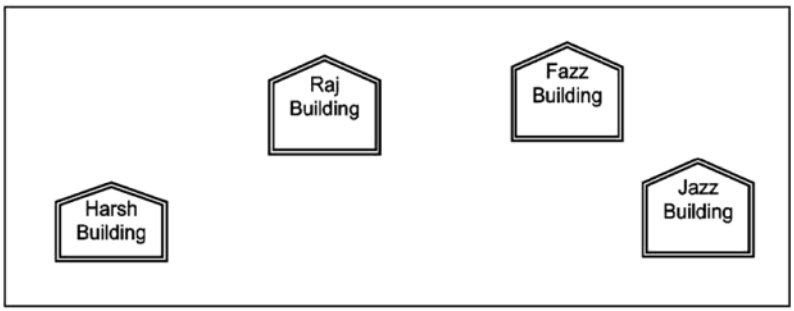
d) What is the importance of URL in networking? 1

Answer:

A Uniform Resource Locator (URL) is used to specify, where an identified resource is available in the network and the mechanism for retrieving it. A URL is also referred to as a Web address.

(1 Mark for appropriate explanation)

e) Ravya Industries has set up its new center at Kaka Nagar for its office and web based activities. The company compound has 4 buildings as shown in the diagram below: 4



Center to center distances between various buildings is as follows:

Harsh Building to Raj Building	50 m
Raj Building to Fazz Building	60 m
Fazz Building to Jazz Building	25 m
Jazz Building to Harsh Building	170 m
Harsh Building to Fazz Building	125 m
Raj Building to Jazz Building	90 m

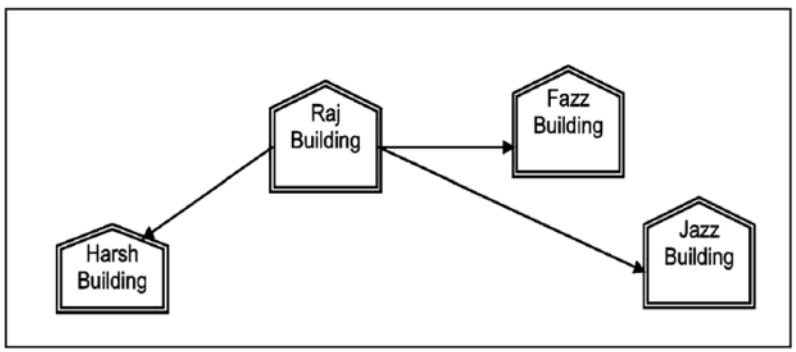
Number of Computers in each of the buildings is follows:

Harsh Building	15
Raj Building	150
Fazz Building	15
Jazz Bulding	25

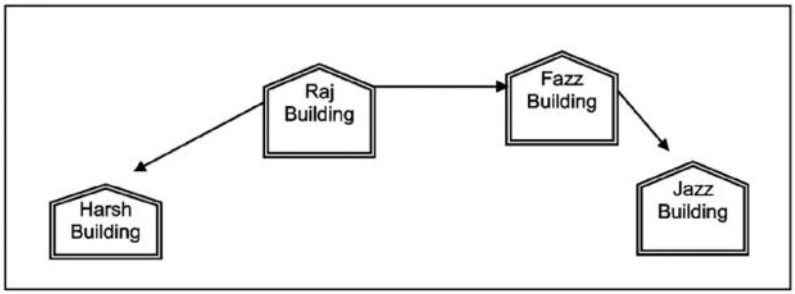
e1) Suggest a cable layout of connections between the buildings.

Answer: (Any of the following option)

Layout 1



Layout 2



(1 Mark for showing any of the above suitable cable layout)

e2) Suggest the most suitable place (i.e. building) to house the server of this organisation with a suitable reason.

Answer:

The most suitable place / block to house the server of this organisation would be Raj Building, as this block contains the maximum number of computers, thus decreasing the cabling cost for most of the computers as well as increasing the efficiency of the maximum computers in the network.

(½ Mark for suggesting suitable place and ½ for appropriate reason)

e3) Suggest the placement of the following devices with justification:
(i) Internet Connecting Device/Modem
(ii) Switch

Answer:

(i) Raj Building since it contains largest number of computers.
(ii) In both the layouts, a hub/switch each would be needed in all the buildings, to interconnect the group of cables from the different computers in each block

(½ Mark each for suggesting suitable place for connecting the two devices)

e4) The organisation is planning to link its sale counter situated in various parts of the same city, which type of network out of LAN, MAN or WAN will be formed? Justify your answer.

Answer:

The type of network that shall be formed to link the sale counters situated in various parts of the same city would be a MAN, because MAN (Metropolitan Area Networks) are the networks that link computer facilities within a city.

(1 Mark for appropriate answer)

f) Compare freeware and Shareware. 1

Answer:

Freeware, the name is derived from words “free” and”software”. It is computer software that is available for use at no cost or for an optional fee. Freeware is generally proprietary software available at zero price, and is not free software. The author usually restricts one or more rights to copy, distribute, and make derivative works of the software.

Shareware is usually offered as a trial version with certain features only available after the license is purchased, or as a full version, but for a trial period. Once the trial period has passed the program may stop running until a license is purchased. Shareware is often offered without support, updates, or help menus, which only become available with the purchase of a license. The words “free trial” or “trial version” are indicative of shareware.

(1 Mark for any one appropriate difference)

g) How Trojan Horses are different from Worms? Mention any one difference. 1

Answer:

A Trojan horse is a term used to describe malware that appears, to the user, to perform a desirable function but, in fact, facilitates unauthorized access to the user’s computer system A computer worm is a self-replicating computer program. It uses a network to send copies of itself to other nodes (computers on the network) and it may do so without any user intervention.

(1 Mark for any one appropriate difference)

Sample Question Paper - I
INFORMATICS PRACTICES
Class-XII

Type of Questions	Marks Per Question	Total Number of Questions	Total Marks
SA I	1	16	16
SA II	2	18	36
LA	6	3	18
Total		**37**	**70**

Blue Print - Sample Question Paper - I
INFORMATICS PRACTICES
Class-XII

Topic / Unit	SA (1 mark)	SA (2 marks)	LA (6 marks)	Total
Networking and Open Standards	4(4)	3(6)	-	7(10)
Programming	7(7)	6(12)	1(6)	14(25)
Relational Database Management System	4(4)	7(14)	2(12)	13(30)
IT Applications	1(1)	2(4)	-	3(5)
Total	16(16)	18(36)	3(18)	37(70)

Sample Paper I

Informatics Practices (Code: 065)

Time: 3Hrs. MM: 70

1 (a) Tara Nathani wants to upload and download files from/to a remote intenet server. Write the name of relevant communication protocol, which will let her do the same. 1

(b) Two doctors in the same room have connected their Palm Tops using Bluetooth for working on a Group presentation. Out of the following, what kind of Network they have formed?
LAN, MAN, PAN, WAN 1

(c) Arrange the following communication channels in ascending order of their data transmission rates.
Ethernet Cable, Optical Fiber, Telephone Cable, Co-axial Cable 1

(d) A software company develops gaming software and sells it without providing its source code. For promotional purpose the company provides demo versions of its games free of cost through the internet. Are these demo versions examples of open source software? Justify your answer. 1

(e) Jai Khanna is confused between the terms Domain Name and URL. Explain the difference with the help of an appropriate example. 2

(f) Define any two threats to Network Security. 2

(g) With the help of a diagram give one point of difference between Star and Bus topologies. 2

2 (a) While working in Netbeans, Rajmeeta included a Listbox in the form. Now she wants her friends. names to be displayed in it. Which property of Listbox control should she use to do this? 1

(b) What is the purpose of default clause in a switch statement? 1

(c) Which HTML tag and corresponding attributes are used to include an image as the background of an HTML document? 1

(d) How is <P> tag different from <BR> tag in HTML? 1

(e) How many times will each of the following loops execute? Which one of these is an entry control loop and which one is an exit control loop? 2

Loop1:
int sum = 0, i = 5;
do
{ sum += i;
i++;
}
while (i<5);
	Loop1:
	int sum = 0, i = 5;
	while (i<5)
	{ sum += i;
	i++;
	}

(f) Write code in Java that takes two numbers from two text fields and displays their sum in a message dialog. 2

(g) How are tags used in XML different from tags in HTML? Write 2 points. 2

3 (a) If a database "Employee" exists, which My Sql command helps you to start working in that database? 1

(b) Sahil created a table with some columns in My Sql. Later on he realised that there should have been another column in the table. Which command should he use to add another column to the table? 1

(c) Pooja, a student of class XI, created a table "Book". Price is a column of this table. To find the details of books whose prices have not been entered in the table she wrote the following query:

Select * from Book where Price = NULL;

Help Pooja to run the query by removing the errors from the query and rewriting it. 1

(d) Rama is not able to change the value in a column of a table to NULL. What are the possible constraints that she might have specified for that column. 2

(e) Distinguish between Primary key and Candidate key with the help of a suitable example. 2

(f) The LastName column of a table "Student" is given below:

LastName
Batra
Sehgal
Bhatia
Sharma
Mehta

Based on this information, find the output of the following queries:

a) SELECT lastname FROM Student WHERE lastname like "_a%";

b) SELECT lastname FROM Student WHERE lastname not like "%a"; 2

(g) A table "Stock" in a database has 5 columns and 17 rows. What are the degree and cardinality of this table? 1

4 (a) Define a class with reference to object oriented programming. 1

(b) What will be the content of jTextField1 after executing the following code: 1

```
        int Num = 6;
        Num = Num + 1;
if ( Num > 5)
        jTextField1.setText(Integer.toString(Num));
else
```

```
jTextField1.setText(Integer.toString(Num+5));
```

(c) What will be the contents of F1 and F2 after the following code is executed? 1

```
String F1="Hello",F2="Friend";
F1=F1.concat(F2);
```

(d) Rewrite the following program code using switch statement: 2

```
if (d == 1)
        day = "Monday";
else if (d == 2)
        day = "Tuesday";
else if (d == 3)
        day = "Wednesday";
else
        day = "-";
```

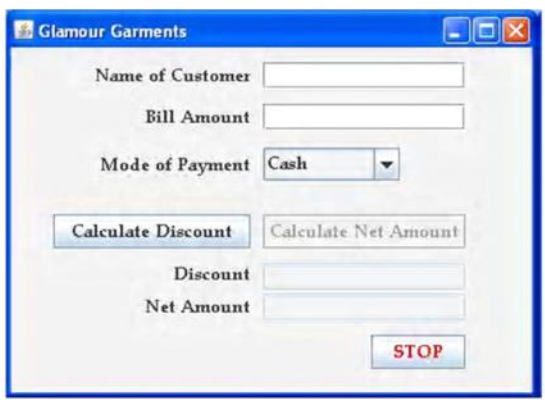
(e) The following code has some error(s). Rewrite the correct code underlining all the corrections made: 2

```
int i=2; j=5;
while j>i
{       jTextField1.getText("j is greater");
        j--
        ++i;
}
JOptionPane.showMessageDialog("Hello");
```

(f) What will be the contents of jTextField1 and jTextField2 after executing the following code: 2

```
String s = "Value for Time";
jTextField1.setText(s.length()+" ");
jTextField2.setText(s.toLowerCase());
```

(g) Glamour Garments has developed a GUI application for their company as shown below :



The company accepts payments in 3 modes- cheque, cash, and credit cards. The discount is given as per mode of payment as follows:

Mode of Payment	Discount
Cash	8%
Cheque	7%
Credit Card	Nil

If the Bill Amount is more than 15000 then the customer gets an additional discount of 10% on Bill Amount.

(i) Write the code to make the textfields for Discount and Net Amount (named txtDisc and txtNetAmt respectively) uneditable. 2

(ii) Write code to do the following:

a. When "Calculate Discount" button is clicked the discount should be calculated as per the given criteria and it should be displayed in the discount textfield. "Calculate Net Amount" button (named btnCalcNetAmt) should also be enabled. 3

b. When "Calculate Net Amount" button is clicked the net amount should be calculated and it should be displayed in the net amount textfield. 1

(Net Amount = Bill Amount - Discount)

5 (a) Explain the purpose of DDL and DML commands used in SQL. Also give one example of each. 2

(b) Write the output of the following SQL queries:

a) SELECT ROUND(6.5675, 2);

b) SELECT TRUNCATE(5.3456, 1);

c) SELECT DAYOFMONTH('2009-08-25');

d)SELECT MID('Class 12', 2,3);

(c) Consider the table TEACHER given below. Write commands in SQL for (i) to (iv) and output for (v) to (viii) 2

Teacher

ID	Name	Department	Hiredate	Category	Gender	Salary
1	Tanya Nanda	SocialStudies	1994-03-17	TGT	F	25000
2	Saurabh Sharma	Art	1990-02-12	PRT	M	20000
3	Nandita Arora	English	1980-05-16	PGT	F	30000
4	James Jacob	English	1989-10-16	TGT	M	25000
5	Jaspreet Kaur	Hindi	1990-08-01	PRT	F	22000
6	Disha Sehgal	Math	1980-03-17	PRT	F	21000
7	Siddharth Kapoor	Science	1994-09-02	TGT	M	27000
8	Sonali Mukherjee	Math	1980-11-17	TGT	F	24500

i. To display all information about teachers of PGT category. 1

ii. To list the names of female teachers of Hindi department. 1

iii. To list names, departments, and hiring dates of all the teachers in ascending order of hiring dates. 1

iv. To count the number of teachers in English department. 1

v. SELECT MAX(Hiredate) FROM Teacher;

vi. SELECT DISTINCT(category) FROM Teacher;

vii. SELECT COUNT(*) FROM Teacher WHERE Category = 'PGT'.;

viii. SELECT AVG(Salary) FROM Teacher GROUP BY Gender; 2

6 (a) Write an SQL query to create the table 'Item'. with the following structure: 2

Field	Type	Constraint
Item Code	VARCHAR(5)	Primary Key
Item Name	VARCHAR(20)	
Category	VARCHAR(20)	
Price	DECIMAL(5,2)	

(b) In a database there are two tables „Customer. and „Bill. as shown below:

Customer

CustomerID	CustomerName	CustAddress	CustPhone
1	Akhilesh Narang	C4,Janak Puri,Delhi	7811078989
2	Purnima Williams	B1, Ashok Vihar,Delhi	6678678711
3	Sumedha Madaan	33, South Ext.,Delhi	6767655412

Bill

BillNo	CustID	Bill_Amt
1	2	12000
2	1	15000
3	2	13000
4	3	13000
5	2	14000

(i) How many rows and how many columns will be there in the Cartesian product of these two tables?

(ii) Which column in the **"Bill"** table is the foreign key?

(c) Consider the tables HANDSET and CUSTOMER given below:

Handset

SetCode	SetName	TouchScreen	PhoneCost
N1	Talk 2G	N	5000
N2	Talk 3G	Y	8000
B1	Samwaad	N	14000

Customer

CustNo	SetNo	CustAddress
1	N2	Delhi
2	B1	Mumbai
3	N2	Mumbai
4	N1	Kolkata
5	B1	Delhi

With reference to these tables, Write commands in SQL for (i) and (ii) and output for (iii) below:

(i) Display the CustNo, CustAddress and corresponding SetName for each customer. 2

(ii) Display the Customer Details for each customer who uses a Talk handset. 2

(iii) 2

```
SELECT SetNo, SetName
FROM Handset, customer
WHERE SetNo = SetCode
AND CustAddress = 'Delhi';
```

7 (a) What is the advantage of using IT applications over the manual operations? 1

(b) Give one example each of input values, where Radio Button and Check Box should be used for efficiency in an IT application. 2

(c) Vijayan works for the Customs Department. He wishes to create controls on a form for the following functions. Choose appropriate controls from Text box, Label, Option button, Check box, List box, Combo box, Command button and write in the third column. 2

SNo	Control used to:	Control
1	Enter last name	
2	Enter Gender	
3	Choose City from a list of cities	
4	Submit Form	

Marking Scheme

Informatics Practices (Code: 065)

Sample Paper I

Time : 3 hours **M.M.: 70**

1 (a) FTP / HTTP.
(1 Mark for Abbreviation and/or Full Form of FTP or HTTP)

(b) PAN
(1 Mark for correct answer)

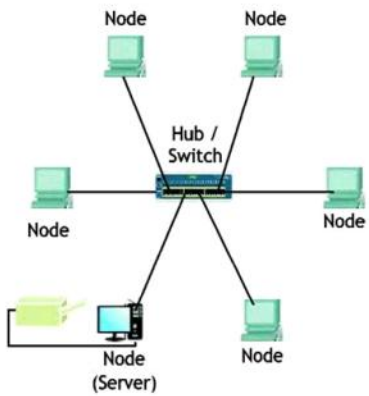
(c) Telephone Cable, Ethernet Cable, Co-axial Cable, Optical Fiber
(1 Mark for correct answer)

(d) No, because Source Codes of these demo versions are not available to the public.
(½ Mark for NO, ½ mark for justification)

(e) A URL (Uniform Resource Locator) is the complete address of a document on the web, whereas a domain name specifies the location of document's web server. A domain name is a component of the URL used to access web sites. For example the web address http://www.example.net/index.html is a URL. In this URL www.example.net is the domain name.
(2 marks for correct explanation of difference with the help of example)

(f) Denial of Service: It refers to any threat that prevents the legitimate users from accessing the network resources or processing capabilities.
Snooping: It refers to any threat that results in an unauthorized user obtaining information about a network or the traffic over that network.
(1 mark each for correctly defining any two threats)

(g) Star Topology: In star topology each node is directly connected to a hub/switch.



Bus Topology: In bus topology all the nodes are connected to a main cable called backbone.

(2 marks for correct difference)

2 (a) Model.

(1 mark)

(b) Default clause is used to handle the case when no match of any case in the switch statement is found.

(1 mark for correct answer)

(c) <BODY> tag and Background attribute are used to include an image as the background of an HTML document.

(½ mark for <BODY> tag and ½ mark or Background attribute)

(d) <P> tag inserts a blank line and starts a new paragraph whereas <BR> tag forces text to a new line like the <P> tag, but without inserting a blank line.

(1 mark for correct difference)

(e) Loop1 will execute once and Loop2 will execute 0 times.

Loop1 is exit control loop and Loop2 is entry control loop.

(½ mark for each correct no. of times of loop execution)

(½ mark each for correctly identifying the type of loop)

(f)
```
int i, j, sum;
i = Integer.parseInt(jTextField1.getText());
j = Integer.parseInt(jTextField2.getText());
sum = i+j;
JOptionPane.showMessageDialog(this, sum);
```

(½ mark for correct variable declaration)

(½ mark for correctly taking the numbers from text fields)

(½ mark for correctly finding the sum)

(½ mark for correctly displaying the sum in message box)

(g)

XML tags	**HTML tags**
The tags used in XML are userdefined tags.	The tags used in HTML are predefined tags.
XML tags cannot be empty tags	HTML tags can be empty tags.

(1 mark for each correct difference)

3 (a) USE Employee

(1 mark for correct answer)

(b) ALTER TABLE

(1 mark for correct answer)

(c) Select * from Book where Price IS NULL;

(1 mark for correct answer)

(d) She might have specified 'NOT NULL' or 'PRIMARY KEY'constraints for that column while creating the table.

(1 mark each for the correct constraint)

(e) Candidate key of a table is a column or a group of columns that is capable of becoming the primary key. A table can have multiple candidate keys but it can have only one primary key.

Example:

Suppose a table STUDENT contains the columns AdmNo, RollNo, Name, Address, PhoneNo of the students of a section of a class. In this table both AdmNo and RollNo are unique for every row in the table. Therefore, each of these columns is capable of becoming the primary key of the table. Hence this table has two candidate keys – AdmNo and RollNo. Out of these any one can be chosen as the primary key of the table.

(1 mark for correct difference)

(1 mark for suitable example)

(f) a) **Last Name**

Batra

b) **Last Name**

Sehgal

(1 mark for each correct answer)

(g) Degree = 5. Cardinality = 17

(½ mark for each part)

4 (a) A class is an abstract user-defined data type that is used as a blueprint to define the objects of that class.

(1 mark for correct definition)

(b) 7

(1 mark for correct answer)

(c) F1: HelloFriend

F2: Friend

(½ mark each for the correct contents of F1 and F2)

(d) switch(d)

```
{ case 1: day = "Monday";
        break;
case 2: day = "Tuesday";
        break;
case 3: day = "Wednesday";
        break;
default: day = "-";
}
```

(½ mark for correct syntax)
(½ mark for the cases 1, 2, 3)
(½ mark for default)
(½ mark for putting break at appropriate places)

(e)
```
int i=2, j=5;
while (j>i)
{ jTextField1.set Text("j is greater");
j—;
++i;
}
jOptionPane.showMessageDialog(this,"Hello");
```

(½ mark each for identifying and correcting 4 errors)

(f) jTextField1: 14
jTextField2: value for time
(1 Mark for 14)
(1 Mark for 'value for time')

(g) (i)
```
txtDisc.setEditable(false);
txtNetAmt.setEditable(false);
```

(1 mark each for both parts)

(ii) (a)
```
float BillAmt, NetAmt, Disc;
String ModeofPayment;
BillAmt = Float.parseFloat(txtBillAmt.getText());
ModeofPayment = (String) cmbMode.getSelectedItem();
if (ModeofPayment.equals("Cash"))
        Disc = BillAmt*8/100;
else if (ModeofPayment.equals("Cheque"))
        Disc = BillAmt*7/100;
else Disc = 0;
if (BillAmt > 15000)
        Disc = Disc + BillAmt*10/100;
btnCalcNetAmt.setEnabled(true);
txtDisc.setText(Disc+"");
```

(½ Mark for variable declaration with appropriate data types)
(½ Mark for extracting Bill Amount correctly from the text box)
(½ Mark for extracting Mode of Payment correctly from Combo Box)
(½ Mark for calculating correct Discount based on Mode of Payment)
(½ Mark for calculating and displaying Discount based on Bill Amount)
(½ Mark for Enabling btnCalNetAmt)

(b)
```
float BillAmt, NetAmt, Disc;
BillAmt = Float.parseFloat(txtBillAmt.getText());
Disc = Float.parseFloat(txtDisc.getText());
NetAmt = BillAmt - Disc;
txtNetAmt.setText(NetAmt+"");
```
(½ Mark for calculating Net Amount)
(½ Mark for Displaying Net Amount)

5 (a) DDL: Data Definition Language. DDL commands are used to create, destroy, and to restructure the database objects.
Example: CREATE (or any other correct example)
DML: Data Manipulation Language. DML commands are used to insert, delete and change data in tables.
Example: DELETE (or any other correct example)
(½ Mark each for purpose and example of DDL)
(½ Mark each for purpose and example of DDL)

(b) a) 6.57
b) 5.3
c) 25
d) las
(½ Mark for each correct answer)

(c) i.
```
SELECT * FROM Teacher WHERE Category = 'PGT';
```
ii.
```
SELECT name FROM teacher WHERE Gender = 'F' AND
        Department = 'Hindi';
```
iii.
```
SELECT name, department, hiredate FROM teacher
        ORDER BY hiredate;
```
iv.
```
SELECT count(*)FROM teacher WHERE department = 'English';
```
(1 Mark for each correct query)

v. 1994-09-02

vi. TGT
PRT
PGT

vii. 1

viii. 24500
24000

(½ Mark for each correct output)

6 (a)
```
CREATE TABLE Item
    ( Itemcode VARCHAR(5) PRIMARY KEY,
        Itemname VARCHAR(20),
        Category VARCHAR(20),
        Price DECIMAL(5,2)
        );
```
(½ Mark for CREATE TABLE Item)
(½ Mark for appropriately putting Primary Key constraint)
(½ Mark for correct data types)
(½ Mark for correct syntax of the query)

(b) (i) 15 rows and 7 columns

(ii) CustID

(½ Mark each for stating number of rows and columns)
(1 mark for choosing the correct foreign key)

(c) (i)
```
SELECT CustNo, CustAddress, SetName
    FROM Customer, Handset
    Where SetNo = SetCode;
```
(1 mark for correct use of SELECT and FROM)
(1 mark for correct use of WHERE clause)

(ii)
```
SELECT Customer.*
    FROM Customer, HandSet
    WHERE SetNo = SetCode and setname like "Talk%";
```
(1 mark for correct use of SELECT and FROM)
(1 mark for correct use of WHERE clause)

(iii)

setno	setname
N2	Talk 3G
B1	Samwaad

(1 mark for each correct line of output)

7 (a) Using IT applications we can save time.

(1 Mark for any one correct point)

(b) (1) Radio Button –

a. To input gender: Male or Female

(2) Check Box –

a. To input hobbies from a number of options available.

(1 Mark for any 1 correct example of each)

(c)

SNo	Control used to:	Control
1	Enter last name	Text Field
2	Enter Gender	Option Button
3	Choose City from a list of cities	List Box or Combo Box
4	Submit Form	Button (Command)

(½ Mark for each correct answer)

Sample Question Paper - II
INFORMATICS PRACTICES
Class-XII

Type of Questions	Marks Per Question	Total Number of Questions	Total Marks
SA I	1	16	16
SA II	2	18	36
LA	6	3	18
Total		**37**	**70**

Blue Print - Sample Question Paper - II
INFORMATICS PRACTICES
Class-XII

Topic / Unit	SA (1 mark)	SA (2 marks)	LA (6 marks)	Total
Networking and Open Standards	4(4)	3(6)	-	7(10)
Programming	7(7)	6(12)	1(6)	14(25)
Relational Database Management System	4(4)	7(14)	2(12)	13(30)
IT Applications	1(1)	2(4)	-	3(5)
Total	16(16)	18(36)	3(18)	37(70)

Sample Paper II

Informatics Practices (Code: 065)

Time: 3Hrs. MM: 70

1 (a) Which protocol is used to transfer hyper text documents on the internet? 1

(b) Which transmission medium should be used to transfer data across two continents at very high speed? 1

(c) Two neighbourhood schools, at a distance of 120 metres from each other, decide to join their LANs using UTP cable so that they can share their elearning resources. But after joining their LANs they are not able to share the resources due to loss of signal in-between. Which device should they use to establish proper connectivity? 1

(d) Which of the following softwares are Open Source:

Linux, MS Windows 7, Photoshop, MySql. 1

(e) Distinguish between Open Source software and Proprietory software with reference to customizability of the software. 2

(f) Name any four Indian scripts included in Unicode. 2

(g) Sujata says that the following numbers indicate an address:

208.77.188.166

What is the above address called? To which object/device is it assigned? 2

2 (a) Ms. Samhita has developed a Java application through which the students of her school can view their marks by entering their admission number. The marks are displayed in various text fields. What should she do so that the students are able to view but not change their marks in text fields? 1

(b) What is the purpose of *break* statement in a loop? 1

(c) What is the use of <CENTER> tag in an HTML document? 1

(d) What is XML? 1

(e) What will be the values of x and y after execution of the following code: 2

```
int x, y=0;
for (x = 1; x<=5; ++x)
y = x++;
--y;
```

(f) Write code in Java that takes principal, rate, and time as input from text fields and displays simple interest in another text field. 2

(g) Mention the purpose of each of the following HTML tags. 2

<B>, <LI>, <HR>, <TABLE>

3 (a) Which command is used in MySQL to make the changes in a database permanent? 1

(b) While creating a table " Customer" Simrita forgot to set the primary key for the table. Give the statement which she should write now to set the column "CustID" as the primary key of the table? 1

(c) What is the purpose of following SQL query: 1

```
SELECT MAX(salary) FROM Emp;
```

(d) Can a table have multiple primary keys? Can it have multiple foreign keys? 1

(e) RollNumber, Name, and Address are some of the columns a table containing data of the students of a section of a class. Out of RollNumber, Name, Address which column can be set as Primary key of this table? Justify your answer. 2

(f) The contents of Item_No and Cost columns of a table "ITEMS" are given below: 2

ITEM_NO	COST
101	5000
102	NULL
103	4000
104	6000
105	NULL

Based on this information, find the output of the following queries:

a) SELECT AVG(COST) FROM ITEMS;

b) SELECT COST+100 FROM ITEMS WHERE ITEM_NO > 103;

(g) A table "Customers" in a database has 5 columns and 3 rows in it. What is its cardinality? What will be its cardinality if 4 more rows are inserted in the table? 2

4 (a) Define inheritance with reference to object oriented programming. 1

(b) A phone number, consisting of 10 digits, is stored in a string variable strPhone. Now it is required to store this phone number in a Long type variable lngPhone. Write a Java statement to do this. 1

(c) Write the purpose of the following statement: 1

```
jTextField1.setText("Informatics".substring(3));
```

(d) Rewrite the following program code using a for loop: 2

```
int i = 1, sum = 0;
while (i<10)
{ sum += i;
i += 2;
}
```

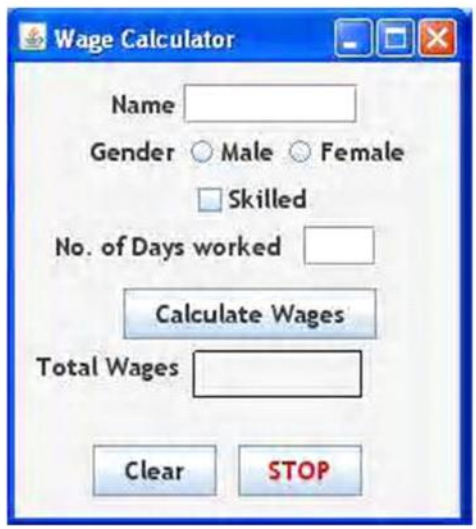
(e) The following code has some error(s). Rewrite the correct code underlining all the corrections made: 2

```
int i, j=5;
i == j+5;
if (i = j)
    { jTextField1.setText("i and j are unequal");
    jTextField2.setText("they are not equal");
    break;
}
else jTextField1.setText("i and j are equal")
```

(f) What will be the contents of jTextField1 and jTextField2 after executing the following code: 2

```
jTextField1.setText(Math.round(2.3)+"");
jTextField2.setText(Math.pow(2,3)+"");
```

(g) Richika is a programmer at Alpha Builders. To calculate wages to be paid to labourers she has developed the following GUI in Netbeans.



Male and Female labourers are respectively paid at the rate of Rs.140/- per day and Rs. 160/- per day. Skilled labourers are paid extra at the rate of Rs.50/- per day. 1

(i) What should be done so that only one of the radio buttons (Male and Female) can be selected at a time?

(ii) Write code to do the following:

a. Calculate and display the Total Wages in the corresponding label when the "Calculate Wages" button is pressed. 3

b. Clear the Name and No. of days worked text fields. 1

c. Close the application when the "STOP" button is pressed. 1

(You can assume any suitable names for various controls on the form.)

5 (a) What is the purpose of DROP TABLE command in SQL? How is it different from DELETE command? 2

(b) "PrincipalName" is a column in a table "Schools". The SQL queries

```
SELECT count(*) FROM Schools;
```

and

```
SELECT count(Principal) FROM schools;
```

give the result 28 and 27 respectively. What may be the possible reason for this? How many records are present in the table : 27 or 28? 2

(c) Consider the table Projects given below. Write commands in SQL for i) to iv) and output for v) to viii)

PROJECTS

ID	ProjName	ProjSize	StartDate	EndDate	Cost
1	Payroll-MMS	Medium	2006-03-17	2006-09-16	60000
2	Payroll-ITC	Large	2008-02-12	2008-01-11	500000
3	IDMgmt-LITL	Large	2008-06-13	2009-05-21	300000
4	Recruit-LITL	Medium	2008-03-18	2008-06-01	50000
5	IDMgmt-MTC	Small	2007-01-15	2007-01-29	20000
6	Recruit-ITC	Medium	2007-03-01	2007-06-28	50000

i. To display all information about projects of "Medium" ProjSize.
ii. To list the ProjSize of projects whose ProjName ends with LITL.
iii. To list ID, Name, Size, and Cost of all the projects in descending order of StartDate.
iv. To count the number of projects of cost less than 100000.
v. SELECT SUM(Cost) FROM projects;
vi. SELECT DISTINCT ProjSize FROM projects;
vii. SELECT ID FROM Projects WHERE StartDate > EndDate;
viii. SELECT ProjSize, COUNT(*) FROM Projects GROUP BY ProjSize;

6 (a) Write an SQL query to create a table "TEAMS" with the following structure: 2

Field	Type	Constraint
TeamCode	Varchar(5)	Primary Key
TeamName	Varchar(20)	
TeamLeader	Varchar(20)	
NoOfMembers	Integer	
Team_Symbol	Char(1)	Not Null

(b) In a database there are two tables "Company" and "Model" as shown below: 2

Company

CompID	CompName	CompHO	ContPerson
1	Titan	Okhla	C.B.Ajit
2	Maxima	Shahdara	V.P.Kohli
3	Ajanta	Najafgarh	R. Mehta

Model

ModelID	CompID	ModelCost
T020	1	2000
M032	4	2500
M059	2	7000
A167	3	800
T024	1	1200

(i) Identify the foreign key column in the table Model.

(ii) Check every value in CompID column of both the tables. Do you find any discrepancy?

(c) Consider the tables DOCTORS and PATIENTS given below: 5

DOCTORS

DocID	DocName	Department	OPD_Days
101	M. Panday	ENT	TTS
102	G. P. Gupta	Paed	MWF
201	C.K. Sharma	Ortho	MWF

PATIENTS

PatNo	PatName	Department	DocID
1	Neeraj	ENT	101
2	Mohit	Ortho	201
3	Ragini	ENT	101
4	Mohit	Paed	102
5	Nandini	Ortho	201

With reference to these tables, write commands in SQL for (i) and (ii) and output for (iii) below:

(i) Display the PatNo, PatName and corresponding DocName for each patient.
(ii) Display the list of all patients whose OPD_Days are MWF.
(iii)
```
select OPD_Days, Count(*)
from Doctors, Patients
where Patients.Department = Doctors.Department
Group by OPD_Days;
```

7 (a) How is e-learning beneficial to students. Write one point 1

(b) List any two features of a good interface of an application. 2

(c) Prikshit works for a school. She wishes to create controls on a form for the following functions:

SNo	Function	Control
1	Enter Admission Number	
2	Select Stream	
3	Select Subjects	
4	Clear the Form	

Choose appropriate controls from Text box, Label, radio button, Check box, List box, Combo box, Command button and write in the third column.

Marking Scheme

Informatics Practices (Code: 065)

Sample Paper II

Time: 3Hrs. MM: 70

1 (a) HTTP (or Hyper Text Transfer Protocol).
(1 Mark for Abbreviation and/or Full Form)

(b) Satellite
(1 Mark for correct answer)

(c) Repeater
(1 Mark for correct answer)

(d) Linux and MySql
(½ Mark for each correct software)

(e) Source code of Open Source software is available to the user and therefore the user can customize it according to his/her own requirements and capability. Whereas the source code of a proprietory software is available only with its vendor/developer. Therefore, it cannot be customized by the user as per his/her requirements.
(2 marks for correct distinction)

(f) Devnagari, Bengali, Gurmukhi, Gujarati, Oriya, Tamil, Telugu, Kannada, Malayalam (Any 4)
(½ mark for each script)

(g) The address is called an IP Address or Internet Protocol Address. It is a numerical label that is assigned to devices participating in a network.
(1 mark for each part)

2 (a) She should make corresponding text boxes non-editable.

OR

She should deselect the editable property of corresponding text boxes.
(1 mark for correct answer)

(b) Break statement is used to terminate the loop.
(1 mark for correct answer)

(c) <CENTER> tag is used to center align text.
(1 mark for correct answer)

(d) XML stands for extensible Markup Language. It is used to store and transport data.
(1 mark for correct answer)

(e) X = 7, Y = 4
(1 mark for each correct value)

(f) `float P, R, T, SI;`

```
P = Float.parseFloat(jTextField1.getText());
R = Float.parseFloat(jTextField2.getText());
T = Float.parseFloat(jTextField3.getText());
SI = P*R*T/100;
jTextField4.setText(SI+"");
```

(½ mark for correct variable declaration)
(½ mark for correctly taking the input from text fields)
(½ mark for correctly finding the SI)
(½ mark for correctly displaying the SI in a text field)

(g) <B> To make a portion of text Bold.
<LI> To define a List Item in an Ordered or Unordered List
<HR> To place a horizontal line in an HTML document
<TABLE> To create a table in an HTML document.
(½ mark for purpose of each tag)

3 (a) COMMIT
(1 mark for correct answer)

(b) ALTER TABLE Customer
ADD PRIMARY KEY (CustID);
(½ mark for ALTER TABLE Customer)
(½ mark for ADD PRIMARY KEY (CustID))

(c) This query displays the maximum value from the salary column of Emp table.
(1 mark for correct answer)

(d) Multiple Primary Keys – NO
Multiple foreign keys – Yes
(½ Mark for each correct answer)

(e) RollNo can be set as primary key.
Reason:
In a section of a class each student has a unique roll number. Therefore, it can be used to identify a row uniquely in the table.
(1 mark suggesting RollNo)
(1 mark for the reason)

(f) a) AVG(COST)
5000

b) COST+100
6100
NULL

a) (1 mark for correct answer)
b) (½ mark for 6100, ½ mark for NULL)

(g) In the first case cardinality is 3.
In the second case cardinality will be 7.
(1 mark for each case)

4 (a) Inheritance is the capability of a class (called derived Class) to inherit the properties of another existing class (called Base Class).
(1 mark for correct definition)

(b) lngPhone = Long.parseLong(strPhone);
(1 mark for correct answer)

(c) This statement places the substring of "Informatics" starting from third character in the text field jTextField1. So, this statement will place "ormatics" in the text field jTextField1.
(1 mark for correct explanation)

(d)
```
int i, sum = 0;
for (i=1; i<10; i+=2)
sum += i;
```
(2 marks for correct answer)

(e)
```
int i, j=5;
i = j+5;
if (i == j)
    { jTextField1.setText("i and j are unequal");
    jTextField2.setText("they are not equal");
    break;
}
else jTextField1.setText("i and j are equal");
```
(½ mark each for identifying and correcting 4 errors)

(f) jTextField1: 2
jTextField2: 8.0
(1 Mark for each correct answer)

(g) (i) Both the radio buttons should be put in a button group.
(1 mark for correct answer)

(ii) (a)
```
int WageRate, NoOfDays, TotalPay;
if (radMale.isSelected())
WageRate =          140;
else WageRate =    160;
if (chkSkilled.isSelected())
WageRate += 50;
NoOfDays = Integer.parseInt(txtDays.getText());
TotalPay = NoOfDays*WageRate;
lblWages.setText(TotalPay+"");
```

(½ Mark for variable declaration with appropriate data types)
(½ Mark for calculating wage rate based on gender)
(½ Mark for recalculating wage rate based on skill)
(½ Mark for extracting no. of days from the corresponding text field)
(½ Mark for calculating total pay)
(½ Mark for displaying total pay in the corresponding label)

(b) txtName.setText(" ");
txtDays.setText(" ");
(½ Mark for each correct statement)

(c) System.exit(0);
(1 Mark for correct answer)

5 (a) The DROP TABLE command removes a table from the database. When a table is dropped, it is no more available in the database. The DELETE command removes data from a table, but the table itself remains.
(1 Mark for explaining DROP TABLE)
(1 Mark for difference between DROP and DELETE)

(b) The possible reason for this is that one record in the table has NULL in the PrincipalName column.
Number of records present in the table is 28.
(1 Mark for each correct part)

(c) i. SELECT * FROM projects WHERE ProjSize = 'Medium';
ii. SELECT ProjSize FROM projects WHERE ProjName LIKE '%LITL';
iii. SELECT ID, ProjName, ProjSize, Cost FROM projects ORDER BY startdate DESC;
iv. SELECT count(*) FROM projects WHERE cost < 100000;
(1 Mark for each correct query)
v. 980000
vi. Medium
Large
Small
vii. 2
viii. Large 2
Medium 3
Small 1
(½ Mark for each correct output)

6 (a) CREATE TABLE Teams
(TeamCode VARCHAR(5) PRIMARY KEY,
TeamName VARCHAR (20),

```
TeamLeader VARCHAR (20),
NoOfMembers INTEGER,
Team_Symbol CHAR(1) NOT NULL
);
```

(½ Mark for CREATE TABLE Teams)
(½ Mark for appropriately putting constraints)
(½ Mark for correct data types)
(½ Mark for correct syntax of the query)

(b) (i) CompID.

(ii) In the 2nd row of Model table the value of CompID is 4. This CompID does not exist in the table Company.
(1 Mark each for each part)

(c) (i)
```
SELECT PatNo, PatName, DocName
FROM patients, doctors
WHERE Patients.DocID = Doctors.DocID;
```
(1 mark for correct use of SELECT and FROM)
(1 mark for correct use of WHERE clause)

(ii)
```
SELECT Patients.*
FROM Patients, Doctors
WHERE Patients.DocID = Doctors.DocID
AND OPD_Days = 'MWF';
```
(1 mark for correct use of SELECT and FROM)
(1 mark for correct use of WHERE clause)

(iii)

OPD_Days	count(*)
MWF	3
TTS	2

(1 mark for each correct line of output)

7 (a) Students can learn at their own pace.
(1 Mark for any one correct point)

(b) 1. It should have pleasant color combination so that the user likes to use it.
2. It should have all the relevant options for all the required fields so that the user is at ease while entering the data.
(1 Mark each for any 2 correct points)

(c)

SNo	Function	Control
1	Enter Admission Number	Text Field
2	Select Stream	List Box/Combo Box/Radio Button
3	Select Subjects	Check Boxes
4	Clear the Form	Button

(½ Mark for each correct answer)

DESIGN OF QUESTION PAPER
MULTIMEDIA & WEB TECHNOLOGIES
Class XII

Time : 3 Hours **Max. Marks : 70**

Wieghtage of marks over different dimensions of the question paper shall be as follows:

A. Weightage to Instructional Objectives

- Knowledge 20%
- Understanding 30%
- Application 50%

B. Weightage to different contents/topics/units

Topic	Marks
• Computer System	5
• Web Technologies	10
• Web Development	40
• Multimedia And Authoring	15
Total	**70**

C. Weightage to the form of Questions

Forms of Questions	**Marks**	**Weightage**
• Very short questions	01	20%
• Short Answers - Type(I) questions	01	10%
• Short Answers - Type(II) questions	02	35%
• Long Answers - Type (I) questions	03	5%
• Long Answers - Type (II) questions	04	20%
• Long Answers - Type (III) questions	08	10%

D. Weightage to Difficulty Level

- Easy 20%
- Average 60%
- Difficulty 20%

E. Scheme of Options

There will be no overall choice. All question are compulsory.

About 20% weightage has been assigned to questions testing highter order thinking skills (HOTS) of learners.

SAMPLE PAPER I BLUE PRINT

SUBJECT:MULTIMEDIA AND WEB TECHNOLOGY
PAPER:THEORY

CLASS XII
MAX MARKS:70
TIME:3 HOURS

SNO.	UNIT	KNOWLEDGE			UNDERSTANDING			APPLICATION			TOTAL
		LA	SA	VSA	LA	SA	VSA	LA	SA	VSA	
1	**COMPUTER SYSTEM**			2(2)					2(1)	1(1)	5(4)
2	**WEB TECHNOLOGY**		2(1)	1(1)		2(1)	1(1)	4(1)			10(5)
3	**WEB DEVELOPMENT**										
a)	ASP		2(1)	1(1)		4(2)	1(1)	3(1)	4(2)	5(5)	20(13)
b)	**Review of class XI**										
	HTML						2(2)	8(1)			10(3)
	VBSCRIPT		2(1)					4(1)	4(2)		10(4)
4	**MULTIMEDIA AND AUTHORING TOOLS**		2(1)	3(3)		6(3)		4(1)			15(8)
	TOTALMARKS/NO. OF QUES.		8(4)	7(7)		12(6)	4(4)	23(5)	10(5)	6(6)	70(37)

NOTE: THE NO. OF QUESTION ARE PUT WITHIN THE BRACKETS AND THEIR MARKS OUTSIDE THEIR BRACKETS.

SAMPLE QUESTION PAPER 1
MULTIMEDIA & WEB TECHNOLOGIES (Code 067)
Class XII

Max. Marks : 70 **Duration : 3 hrs.**

1. a) Define the term foreign key. 1

b) Name the following: 1

i) An attribute which is capable of becoming a primary key.

ii) The MS-Access view in which we can define the fields, their data types and their input masks.

c) What is the full form of MPEG? What kinds of files are stored using the MPEG file format? 1

d) Study the following data and answer the questions given below:

Table: Sales

Sale_Date	Item_name	Bill_No	Item_Price	Quantity_Sold
11/12/2003	Pen	101	20.50	5
09/10/2003	Pencil	212	5.00	12
09/10/2003	Eraser	203	8.25	10
08/12/2003	Pencil	113	5.00	3
07/11/2003	Stapler	126	30.00	15
07/11/2003	Pen	254	20.50	8

i. If the Item details have to be stored in a separate table (named ITEMS), then identify the two fields from the above table which should be included in the table ITEMS. 1

ii. Suggest the data types that should be used for each of the fields in the above table. 2

e) Differentiate between a GIF and a JPEG image. 2

f) Explain the term “Publishing a Flash Movie”? Name any two formats in which a Flash movie can be published. 2

2. Answer the following questions based on Macromedia Flash:

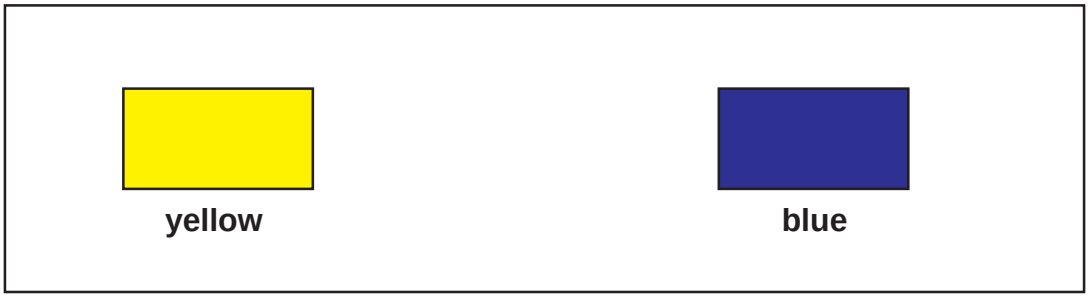
a) Define the term Timeline. 1

b) What is a symbol? 1

c) Differentiate between a Key Frame and a Blank Key Frame. 2

d) Explain tweening with the help of an example? Name the two kinds of tweening. 2

e) Observe the figure given below and do as directed: 4



- The box on the right hand side shows the position, size and colour of the image for frame 1.
- The box on the left hand side shows the position, size and colour of the image for frame 20.
- The box has to move from frame 1 to frame 20 over a period of time.

Write the procedure and property settings for animating the above scenario.

3. Answer the following questions based on HTML:

a) Differentiate between HIDDEN and PASSWORD interface elements of a form. 1

b) Explain with the help of an example how 'intrafile' linking is done. 1

c) Write the HTML code to generate a Web Page in the format given below : 8

Consider the following while writing the HTML code

1. Background colour of the page should be "Gray" and visited link colour should be "Green".
2. Font face of text in the page should be "Arial"
3. Text colour of main heading should be "Maroon"
4. Picture used in the page is the file "map.jpg"
5. The text "Ghumo Phiro Travels" should be in "Red" colour and in "Bold"
6. Pages linked to :
   - Rajasthan Packages as "raj.html"
   - Kerala Packages as "kerala.html"
7. The table should have a caption "Tarriff".
8. Bottom message should be of size 2.

4. Answer the following questions based on ASP:

a) What is the basic difference between a HTML file and an ASP file? 1

b) Identify the following:

(i) The collection used to retrieve the values of form elements sent using the POST method.

(ii) The alternate command for `<% ="HELLO" %>` 2

c) What is a sub-routine? What are arguments? Explain with an example. 2

d) Use the following script to answer the questions that follow: 2

```
<!- - Start the script - - >
<%
DIM A
StartSub
Sub StartSub
     Work
     B = 20
     Work
END SUB
SUB Work
     A=A+5
END SUB
%>
```

(i) What is the scope of variables A and B in the above script?

(ii) How many times will the subroutine *Work* be executed in the above script?

e) Give output of the following statements: 3

```
i)   Response.Write(INSTR(LTRIM(" WebTech"), "Tech"))
ii)  Response.Write(UCASE(RIGHT("Multimedia",5)))
iii) Response.Write(ABS(4 - 10 * 3))
```

5. Answer the following questions based on ASP:

a) Explain briefly the usage of the Application object. 1

b) Underline the errors in the following code and write the corrected script. 2

```
<HTML>
<BODY>
<% for a = 1 To 4 %>
<FONT SIZE= <% a %>>
Hello World !<BR>
< Next>
</BODY>
</HTML>
```

c) Give the output for the following code segment: 2

```
<%
   Arr=Array(25,14,20,45)
   max=UBOUND(Arr)
FOR i=max TO 1 STEP -1
   Arr(i)= 100-Arr(i)
NEXT
FOR i=0 TO max
   RESPONSE.WRITE (Arr(i) & "<BR>")
NEXT
%>
```

d) Observe the program segment given below carefully and fill the blanks marked as Line 1 and Line 2 using methods of the RecordSet object for performing the required task. 2

```
<%
DIM objConn, strConn, objRS
SET objConn = Server. CreateObject("ADODB.Connection")
strConn = "DSN=exam"
objConn. Open strConn
SET objRS = Server.CreateObject("ADODB.RecordSet")
objRS.Open "Student", objConn, 2, 2
objRS.MoveLast 'Move the cursor to the end of file
_____________ 'Line 1 to Add a new blank record
objRS("AdmNo") = Request.Form("AdmNo")
objRS("Name") = Request.Form("Name")
_____________ 'Line 2 to save the record in the database
objRS.Close
objConn.Close
SET objRS = Nothing
SET objConn = Nothing
%>
```

e) Online Bazaar uses its website to make money through banner advertisements. Create an ASP file "online.asp" that uses the AdRotator component to display the advertisements stored in the file "ads.txt" 3

6. Answer the following questions based on VBScript:

a) Define the term event. Name the events to be used in the following situations: 2

(i) To display a message every time the viewer closes a web page.

(ii) To deactivate a particular textbox in a form

b) Write the equivalent script for the following code using DO.. WHILE loop without affecting the output: 2

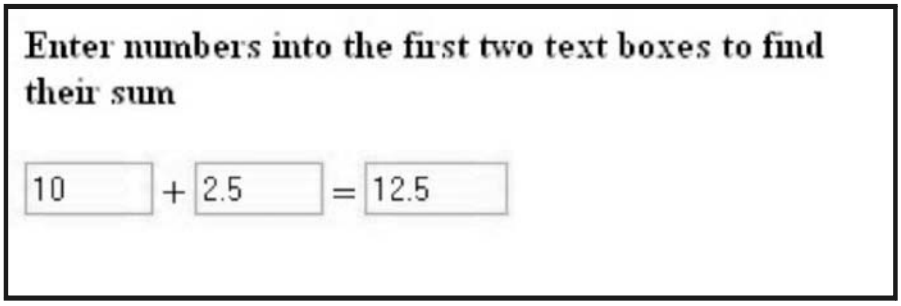
```
<SCRIPT LANGUAGE="VBScript">
DIM sum
sum=0
```

```
FOR a= 1 TO 10 STEP 3
sum=sum + a*a
document.write(a)
NEXT
document.write(sum)
</SCRIPT>
```

c) Give the output of the following code segment: 2

```
<Script Language="VBScript">
Dim A , B
A = 1
B = 10
Do While A < 5
Document.Write(A+B)
   A = A + 1
   B = B - 2
Loop
</Script>
```

d) Write an HTML code for creating a form, which contains three textboxes as shown below. The first two textboxes accept two numbers as input from the user and the third textbox displays the sum of these two numbers. Include the VBScript code which contains a user-defined function required to be called when the user changes the values in any of the first two text boxes. 4



7. Answer the following questions based on Communication and network concepts:

(a) Define the term protocol. 1

(b) Aleena is interested in transferring few Songs from her mobile phone to Sanyan's mobile phone. Suggest two suitable wireless options she may opt for to do the same. 1

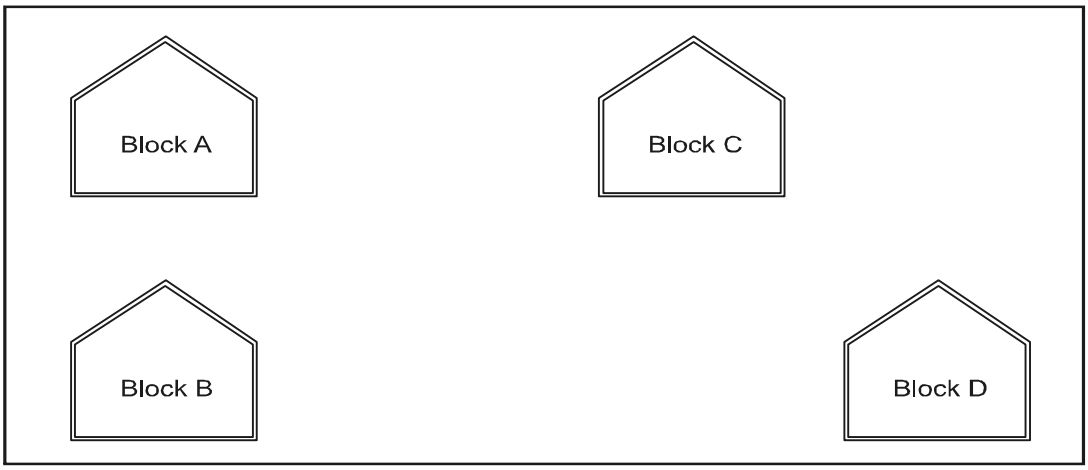
(c) Differentiate between a Hub and a Switch. (Give one point) 2

(d) Explain the following terms: 2

i. Firewall

ii. Cracker

e) **Knowledge Supplement Organisation has set up its new center at Mangalore for its office and web based activities. It has 4 blocks of buildings as shown below:**



Center to center distances between various blocks

Block A to Block B	50 m
Block B to Block C	150 m
Block C to Block D	25 m
Block A to Block D	170 m
Block B to Block D	125 m
Block A to Block C	90 m

Number of Computers

Block A	25
Block B	50
Block C	125
Block D	10

(i) Suggest a cable layout of connections between the blocks.

(ii) Suggest the most suitable place (i.e. block) to house the server of this organisation with a suitable reason.

(iii) Suggest the placement of the following devices with justification

- Repeater
- Hub/Switch

(iv) The organization is planning to link its front office situated in the city in a hilly region where cable connection is not feasible, suggest an economic way to connect it with reasonably high speed?

Answering Scheme – Sample Question Paper 1
MULTIMEDIA & WEB TECHNOLOGIES (Code 067)
Class XII

Max. Marks : 70 **Duration : 3 hrs.**

1. a) The foreign key is an attribute of one relation, whose values match those of the primary key of another relation. 1

(1 mark for correct definition)

b) i) Candidate Key 1

ii) Design View

(½ mark for each part)

c) MPEG stands for Moving Picture Experts Group 1

This file format is used for saving movie files.

(½ mark for correct full form

(½ mark for correct file type)

d)

i. Item_Name and Item_Price 1

(½ mark for each correct field name)

ii. Data types to be used for Table Sales are: 2

Field Name	**Data Type**
Sale_Date	Date or Time
Item	Text
Bill_No	Number or Text
Price	Currency or Number
Quantity	Number

(2 marks if all correct data types are given)
(1 mark if at least 3 correct data types are given)

e) 2

	GIF image	**JPEG image**
1.	GIF stands for Graphic Interchange Format	1. JPEG stands for Joint Photographic Experts Group
2.	Allows animation	2. Does not allow animation
3.	GIF files are less compressed and hence take more storage space.	3. JPEG files are almost 10 times more compressed than GIF files; hence JEPG files are more compact than GIF files.

(1 mark each for any two correct difference)

f) Publishing a Flash Movie means delivering a completed movie to an audience by converting the Flash .FLA file to another format for playback. 2

File formats in which a Flash movie can be published are: .SWF, .HTML, .GIF, .JPEG, .PNG, .EXE, .HQX, .MOV, .SMIL. **(Name any two)**

(1 mark for correct definition)

(½ marks each for any two correct file formats)

2. a) The Timeline is where the user coordinates the timing of the animation and assembles the artwork on separate layers. 1

(1 mark for correct definition)

b) Symbol is a reusable media element that can be used in a movie. 1

(1 mark for the correct definition)

c) 2

Keyframe	**Blank Keyframe**
1. A keyframe is a frame in which the user can define a change in an animation or include frame actions to modify a movie.	1. A blank keyframe is one which is empty and is waiting to be filled. It is used to hide the object till it reaches another keyframe.
2. It is denoted by a solid dot in the frame	2. It is denoted by a white frame

(1 mark each for any two correct differences)

d) In tweening, the user creates starting and ending frames and Flash automatically creates the frames in between. For example: 2

Frame 1 **Frame 20**

Two types of tweening are: Motion tweening and Shape tweening.

(1 mark for correct definition)

(½ marks each for correctly naming the two tweening methods)

e) The following steps have to be followed to animate the given scenario: 4

- Select frame 1 from the timeline and select Insert → New Symbol → Graphic
- Create the blue coloured figure given on the right handside.
- Insert an instance of this symbol in frame 1 by dragging it from the library window.
- Select frame 20 from the timeline and Select Insert → Keyframe
- Change the size of the image using scaling button
- Change the colour of the object by selecting Tint option from the Effect palette and selecting the new colour.
- Select any frame between 1 and 20

- Select create shape tween.

(½ marks for each step)

3. a) HIDDEN creates an invisible text control that allows the user to store values within a Web page without being seen by the user, while PASSWORD creates a visible text control that displays the characters typed into the input area as asterisks. 1

(½ marks for explanation of each interface element)

b) Intrafile linking is a two step process: 1

1. The First step involves creating a named anchor:

   For example:

    Heading

This creates a marker for the link to jump to on a web page

2. The second step involves using this named anchor to create a link:

   For example:

    Back to Top

(½ marks for correctly creating the anchor)

(½ marks for correctly creating the link using the anchor)

Answer(c) 8

```
<HTML>
<BODY BGCOLOR="Gray" VLINK="Green">
<BASEFONT FACE="Arial">
<FONT COLOR="Maroon"><H2 ALIGN=center>
WELCOME TO INDIA</H2></FONT>
<HR SIZE=3 COLOR=black><BR>
<IMG SRC="map.jpg" HEIGHT=150 WIDTH=200 ALIGN="left">
<P><B> <FONT COLOR=red> Ghumo Phiro Travels </FONT>
<BR><BR><P> We offer the following packages:</P>
<OL>
<LI><A HREF="raj.html">Rajasthan Package</A>
<UL TYPE=square>
<LI>Jaipur
<LI>Udaipur
<LI>Pushkar
</UL><BR>
<LI><A HREF="kerala.html">Kerala Package</A>
<UL TYPE=cirle>
<LI>Kumarokom Resort
<LI>Periyar Wildlife Sanctuary
<LI>Kovalam Beach
</UL>
</OL>
<TABLE ALIGN=center BORDER=2><CAPTION>Tarriff</CAPTION>
<TR><TH>Package</TH><TH>Normal</TH><TH>Delux</TH></TR>
<TR><TD>Rajasthan</TD><TD>Rs.7000</TD><TD>Rs.10,500</TD></TR>
<TR><TD>Kerala</TD><TD>Rs.11,500</TD><TD>Rs.18,000</TD></TR>
</TABLE>
```

```
<HR SIZE=3 COLOR=black>
<FONT SIZE=2><P ALIGN=center>For enquires
<A HREF="mailto:any@email.com">Mail to us</A></P>
</BODY></HTML>
```

(1 mark for correct use of <HTML> and <BODY> tags)
(½ mark for correct use of <BASEFONT> tag)
(1 mark for displaying heading correctly and <HR> tag)
(1 mark for correct use of <IMG> tag)
(1 mark for correct use of <P> tag with <FONT> or <SPAN> tag to change colour in between)
(1 mark for correct use of <OL> and <UL> tags in proper nested order)
(1 mark for correct use of <A> tag for creating links)
(1 mark making table correctly)
(½ mark for correct display of bottom message)

4. a) An Active Server Page can contain server-side scripts, built-in objects and additional Active-X components whereas a normal HTML page cannot have any scripts or additional components. 1

(1 mark for the correct difference)
(½ mark if only one option is correct)

b) (i) FORM collection 2

(ii) The alternate command is :

```
Response.Write("HELLO")
```

(1 mark for each part)

c) A subroutine is a named block of code that can be called from anywhere in a program to accomplish a specific task. Subroutines are procedures that do not return a value to the caller. 3
Data that is required for the execution of the subroutine may be passed through variables called arguments.
Example:

```
Sub DisplaySum(a,b)
   Dim c
   c=a+b
   Response.Write("Sum =" & c)
End Sub
```

(1 mark for correct definition of subroutine)
(1 mark for correct definition of arguments)
(1 mark for example)

d) (i) Variable A has global scope while variable B has local scope.
(½ mark for each correct scope)

(ii) The subroutine *Work* will be executed two times
(1 mark for correct answer)

(e) Output : 2

Answer i) 4
ii) 26
(1 mark for each correct output)

5. a) A group of related ASP pages is called an application. An application object has all the methods and collections related to applications. 1
For example, an application variable contains data that can be used on all the pages and by all the users of an application.
(1 mark for correct usage with or without an example)

Answer(b) Corrected script with errors underlined: 2

```
<HTML>
<BODY>
<% for a = 1 To 4 %>
   <FONT SIZE= <% =a %>>
   Hello World!<BR>
<% Next %>
</BODY>
</HTML>
```

(1 mark for correcting each error)

Answer(c) Output: 2

25
86
80
55

*(½ **mark for each correct line of output)***

(d) **Line 1:** 2

```
objRS.AddNew
```

Line 2:

```
objRS.Update
```

(1 mark for each correct line of output)

e) Coding: 3

```
<HTML>
<BODY>
<HR>
<%
   Set myad=Server.CreateObject("MSWC.AdRotator")
%>
<CENTER><%= myad.GetAdvertisement("ads.txt") %></CENTER>
</BODY>
</HTML>
```

(½ mark for correct <H1> tag)

(½ mark for <HR> tag)
(1 mark for correct usage of CreateObject)
(1 mark for correct usage of GetAdvertisement)

6. (a) An event describes actions that occur as the result of user interaction with a web page. For example, when a user clicks a hyperlink or a button an event is generated. 2

(i) OnUnload
(ii) OnBlur
(1 mark for correct definition)
(½ mark for each correct event name)

b)
```
<SCRIPT LANGUAGE=”VBScript”>                                    2
DIM sum,a
sum=0
a=1
DO WHILE a<=10
   sum=sum + a*a
   document.write(a)
   a=a+3
LOOP
document.write(sum)
</SCRIPT>
```

(½ mark for correct initialisation of variables)
(1 mark for correct syntax of DO..WHILE loop)
(½ mark for correct increment of variable)

c) Output:
111098 ***(½ marks for each correct value i.e. 11, 10, 9, 8)*** 2

d)
```
<HTML>                                                          4
<HEAD><TITLE>Button Event</TITLE>
<SCRIPT LANGUAGE=”VBScript”>
Sub calc
   c1=cDbl(document.form1.txt1.value)
   c2=cDbl(document.form1.txt2.value)
   c3=c1+c2
   document.form1.txt3.value =c3
End Sub
</SCRIPT>
<HEAD>
<BODY LANGUAGE=”VBScript”>
<FORM NAME=”form1">
<H4>Enter numbers into the first two text boxes to find their
sum</H4>
<INPUT TYPE=”text” value=0 NAME=”txt1" size=5 onChange=’calc’>
+
<INPUT TYPE=”text” value=0 NAME=”txt2" size=5 onChange=’calc’>
=
```

```
<INPUT TYPE=”text” value=0 NAME=”txt3" size=6>
</FORM>
</BODY>
</HTML>
```

(1 mark for correct declaration and end of sub routine)
(½ mark for correct retrieval of values from the form textbox)
(½ mark for correct calculation of sum)
(½ mark for correct use of <FORM> tag)
(1 mark for correct syntax for making text boxes)
(½ mark for correct usage of onChange event)

7. a) A protocol is a set of rules that governs data communications between two devices. 1

(1 mark for correct definition)

b) Aleena can use Infrared or Bluetooth to transfer the songs. 1

(½ mark for each correct option)

c) A hub is a common connection point for devices in a network. Hubs are commonly used to connect segments of a LAN. 2

A switch is similar to a hub, in that it provides a central connection between two or more computers on a network, but with some intelligence.

(2 marks for the correct differentiation point)

(1 mark if only one option is correct)

d) i. Firewall 1

ii. Cracker 1

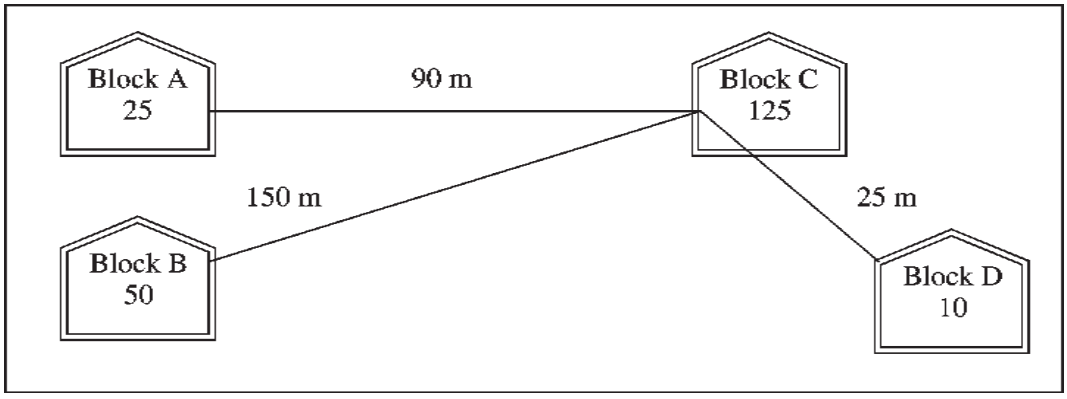
Firewall: Software/hardware used to prevent unauthorized access from a computer system or network of computer systems.

Cracker: A person who breaks into a computer system/network without having authorized access with a malicious intent.

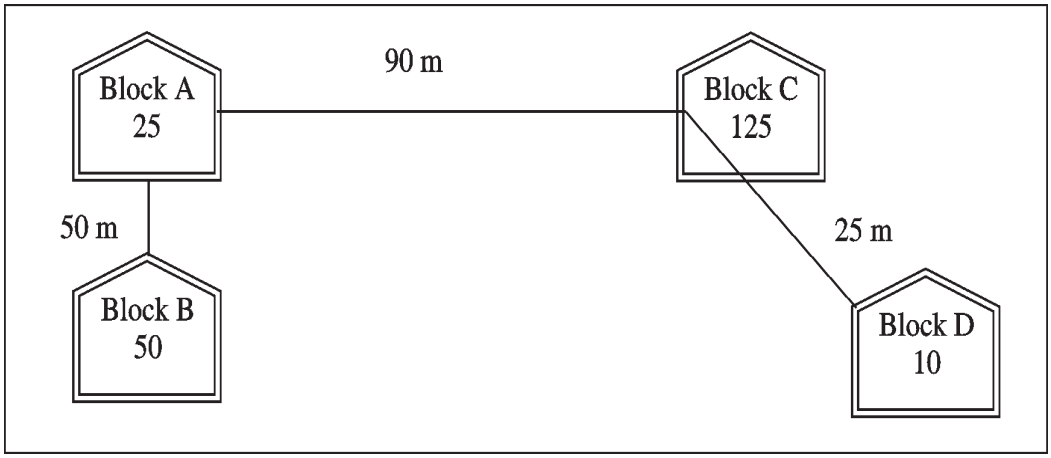
(1 mark for each correct term explanation)

Answer (e) (i) (Any of the following option) 4

Layout Option 1:



Layout Option 2: Since the distance between Block A and Block B is quite short



(1 mark for any one correct layout suggested above)

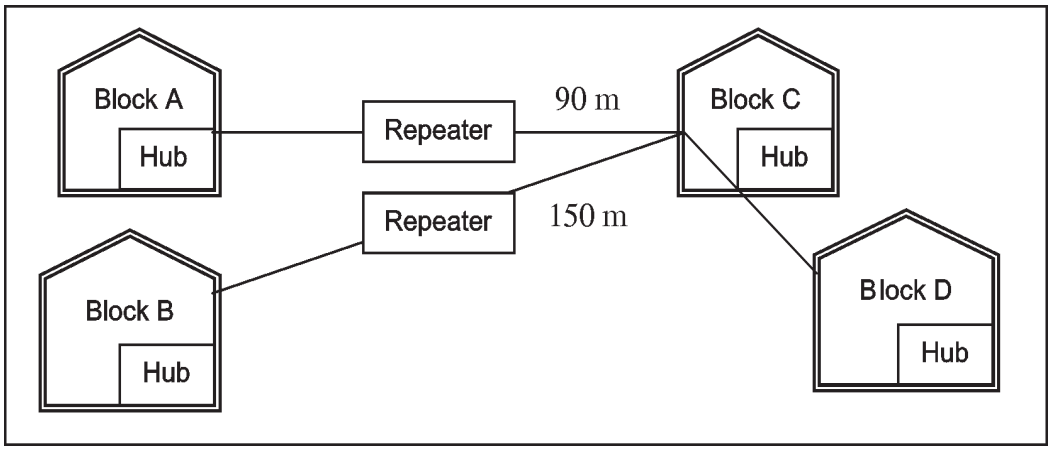
(ii) The most suitable place / block to house the server of this organisation would be Block C, as this block contains the maximum number of computers, thus decreasing the cabling cost for most of the computers as well as increasing the efficiency of the maximum computers in the network.

(½ mark for naming the correct block)

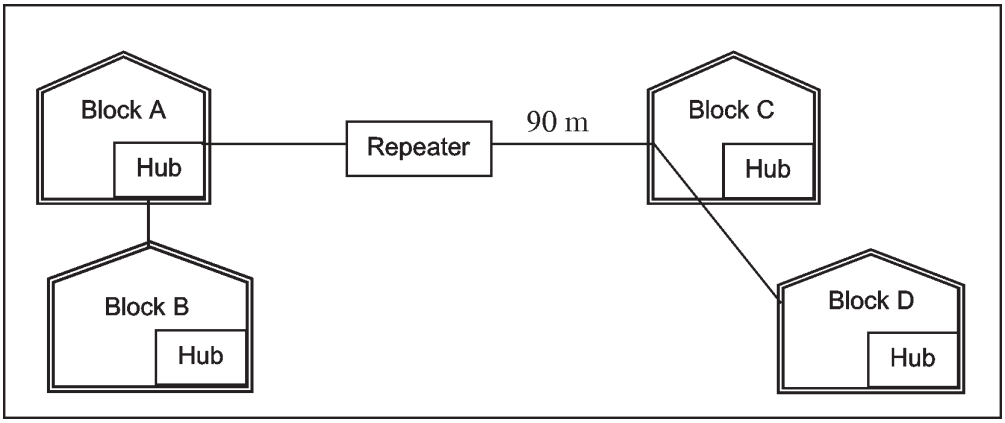
(½ mark for correct justification)

(iii) **Repeater:**

For Layout 1, since the cabling distance between Blocks A and C, and that between B and C are quite large, so a repeater each, would ideally be needed along their path to avoid loss of signals during the course of data flow in these routes.



For layout 2, since the distance between Blocks A and C is large so a repeater would ideally be placed in between this path



Hub/Switch:

In both the layouts, a hub/switch each would be needed in all the blocks, to interconnect the group of cables from the different computers in each block.

(½ mark for correct placement of repeater and hub)

(½ mark for correct justification)

(iv) The most economic way to connect it with a reasonable high speed would be to use radio wave transmission.

(1 mark for naming the correct technology)

SAMPLE PAPER II BLUE PRINT

SUBJECT:MULTIMEDIA AND WEB TECHNOLOGY
PAPER:THEORY

CLASS XII
MAX MARKS:70
TIME:3 HOURS

SNO.	UNIT	KNOWLEDGE			UNDERSTANDING			APPLICATION			TOTAL
		LA	SA	VSA	LA	SA	VSA	LA	SA	VSA	
1	**COMPUTER SYSTEM**			1(1)			2(2)		2(1)		5(4)
2	**WEB TECHNOLOGY**		3(1)			2(1)	1(1)	4(1)			10(4)
3	**WEB DEVELOPMENT**										
a)	ASP			1(1)		10(5)	1(1)	3(1)		5(5)	20(13)
b)	**Review of class XI**										
	HTML							8(1)	2(1)		10(2)
	VBSCRIPT			1(1)			1(1)	4(1)	4(2)		10(5)
4	**MULTIMEDIA AND AUTHORING TOOLS**			2(2)		8(4)	1(1)	4(1)			15(8)
	TOTALMARKS/NO. OF QUES.										70(36)

NOTE: THE NO. OF QUESTION ARE PUT WITHIN THE BRACKETS AND THEIR MARKS OUTSIDE THEIR BRACKETS.

SAMPLE QUESTION PAPER 2
MULTIMEDIA & WEB TECHNOLOGIES (Code 067)
Class XII

Max. Marks : 70 **Duration : 3 hrs.**

1. a) What is the difference between the Number and Auto Number data types of Access? 1

b) Name the following:

i) The extension of an Access database file.

ii) The view in which we can add, edit and view records in MS-Access. 1

c) What is the full form of PNG? 1

d) Study the following data and answer the questions given below:

Table: Book

Book_Title	Acc_no	Author	Price
ASP	1002	Russell	325.00
VBScript	1014	Simon	295.00
HTML	1001	Ray	350.00
Jscript	1020	Jaworski	375.00

Table: Issue

Member_no	Issue_Date	Return_Date	Acc_No
1432	07/12/2003	07/22/2003	1001
2042	09/30/2003	10/10/2003	1020
1245	10/08/2003	10/18/2003	1002
1432	10/03/2003	10/13/2003	1014
1324	09/30/2003	10/03/2003	1001

(i) What type of relationship exists between table **Book** and table **Issue**? 1

(ii) Name the fields, which can act as the primary key and foreign key for the table **Book** and the table **Issue** respectively. 2

e) Differentiate between the .FLA and .SWF file formats of a Flash movie. 2

f) Mr. Raja Maheshwari is planning to gift a digital album to his daughter on her birth-day. All the images have lots of colour shading and are all static images. Which of the following formats are best suited for this purpose:

(i) GIF

(ii) JPEG

(iii) AVI

justify your choice 2

2. Answer the following questions based on Macromedia Flash:

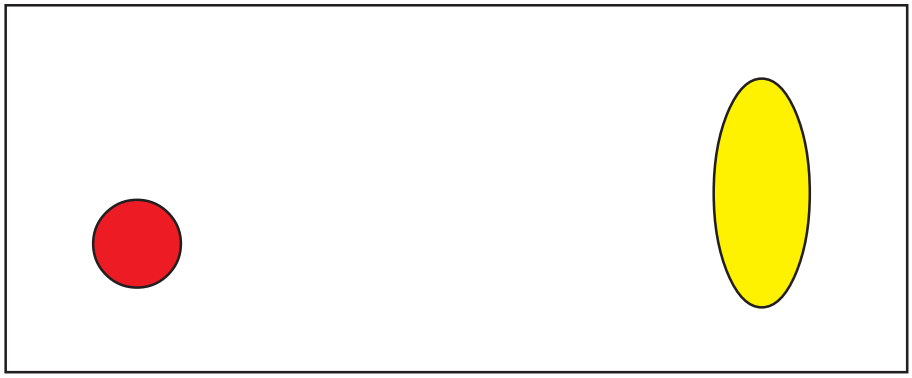
a) Define the term Framerate. 1

b) Write the difference between a guide layer and a mask layer. 2

c) Differentiate between a Symbol and an Instance. 2

d) What is the difference between hiding a layer and locking a layer? 1

e) Consider the figure given below and do as directed: 4

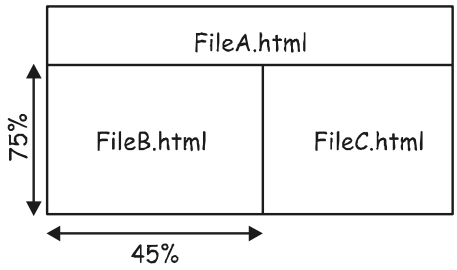


- The circle on the left hand side shows the position and size of the image for frame 1. The colour of the image is red.
- The circle on the right hand side shows the position and size of the image for frame 20. The colour of the image is yellow.
- The circle on frame 1 moves and transforms into an ellipse on frame 20.

Write the procedure and property settings for animating the above scenario.

3. Answer the following questions based on HTML:

a) Write the HTML code to create a framed web page in the following format: 2



b) Write the HTML code to generate a Web Page in the format given below : 8

Consider the following while writing the HTML code

1. Title of the page should be “Tourism Industry”
2. Background colour of the page should be “Silver”, Link colour should be “Maroon”, visited link colour should be “Red” .
3. Picture used in the page is the file “beach.jpg”
4. Table should have a border of width 2.
5. Use the concept of nested lists for creating the list given in the web page with specified bullets.
6. Pages linked to :
   - Front Office as “front.html”
   - Food & Beverages as “food.html”

Hospitality Industry

One of the industries which is on the path of rapid growth is the hospitality industry.

The Hotels today aims to provide the highest standard of accommodation, facilities and services at competitive prices.

Hotels are broadly classified as:

Hotels	Resorts
Business Hotels	Beach resorts
Liocure Hotel	Hill resorts
Budgel Hotel	Heritage resorts

Departments in a Hotel

1. **Front Office**
   - **Reservations**
   - **Reception**
   - **Guest Relations**

2. **Food and Beverages**
   - **Room Service**
   - **Coffee Shop**
   - **Restaurant**

For all futher equires: Contact us

4. Answer the following questions based on ASP:

a) Name any two technologies which are equivalent to ASP. 1

b) Explain with examples the difference between implicit and explicit declaration of variables. 2

c) Explain with an example the difference between the string operators + and &. 2

d) Use the following script to answer the questions that follow: 2

```
<!- - Start the script - - >
   <%
      DIM A
      A = 10
      StartSub
      Sub StartSub
         Work
         B = 20
         Work
      END SUB
      SUB Work
         A=A+5
      END SUB
   %>
```

(i) What is the scope of variable A and B in the above script?

(ii) What is the value of A and B before the subroutine StartSub ends?

e) Give output of the following statements: 3

```
i) Response.Write(UCASE(MID("Hello There"),7,3)))
ii) Response.Write(MONTHNAME(MONTH("15-2-2003")))
iii) Response.Write((4+5)MOD(3^2))
```

5. Answer the following questions based on ASP:

a) What is the purpose of using the Global.asa file? 1

b) Differentiate between the RESPONSE object and REQUEST object. 2

c) Rewrite the following code after removing errors with each correction underlined. 2

```
<HTML>
<HEAD>
<%
sub vbproc(num1,num2)
request.write(num1*num2)
%>
</HEAD>
<BODY>
<p>
Result: <%call vbproc(3)%>
</p>
<%vbproc 3,4>
</p>
</body>
</html>
```

d) Give the output for the following code segment: 2

```
<html>
<body>
<% sometext = "Bye!"
max=Len(sometext)
For i=0 to max newtext=Left(sometext,i)
response.write(strReverse(newtext))
response.write("<br>")
next
%>
```

e) Shloka International is a company that provides software solutions to their clients. The company wishes to design an ASP coded web page with the following specifications: 3

- To display the current time and the name of the company on the opening page as displayed
- To display a greeting message "GOOD MORNING" if the user accesses the website between 5 and 12 A.M. and "GOOD EVENING" otherwise.

SHLOKA International

The current date and time is : 1/25/2010 5:20:47 PM

GOOD EVENING

6. Answer the following questions based on VBScript:

a) Differentiate between a sub-routine and a function with the help of an example. 1

b) Name the built-in functions to be used in the following situations: 1

(i) To return a number rounded to specified decimal places.

(ii) To check if string1 occurs within string2 and return the starting position of string2 in string1.

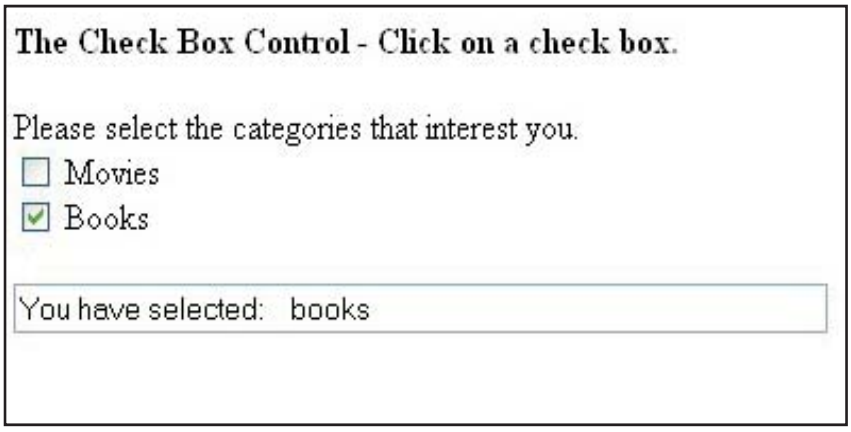
c) Write the equivalent script for the following code using FOR loop without effecting the output: 2

```
<SCRIPT LANGUAGE="VBScript">
DIM count,ans
ans=1
count=2
DO
ans=ans*count
count=count+2
LOOP WHILE count<=10
document.write(ans)
</SCRIPT>
```

d) Give the output of the following code segment: 2

```
<SCRIPT LANGUAGE="VBScript">
Dim Names()
Count = 2
ReDim Names(Count)
Names(0)="Raj"
Names(1)="Simran"
Names(2)="Nisha"
ReDim Names(Count + 2)
Names(4)="Rohit"
Document.Write(Names(0))
Document.Write(Names(1))
Document.Write(Names(2))
Document.Write(Names(3))
</SCRIPT>
```

e) Create a form that contains two checkbox options and a textbox as shown below. When the user clicks on any checkbox the selected options must be displayed in the textbox. Write the HTML code for creating the form and the embedded VBScript code for the click events of the checkboxes. 4



7. Answer the following questions based on Communication and network concepts:

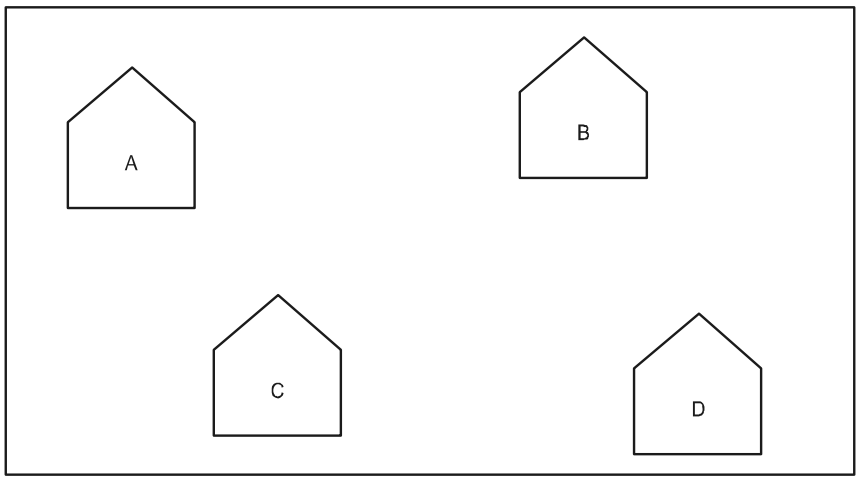
a) Girish Ramanuj is an entrepreneur who has recently set up a new business. Girish needs to create a lot of documents, presentations, databases and spreadsheets to maintain data and spread his business. However, he does not have the money to purchase any of the proprietary software which offers all these packages. Can you suggest what software can Girish use for which he has to pay no licensing fee? 1

b) Why is optical fibre cable preferred over twisted pair cable and coaxial cable? 2

c) Explain the following terms: 3

i. Shareware
ii GSM
iii TCP/IP

d) An Organization has its offices in building A, B, C and D. Answer questions (a) to (d) in context of the following layout of the three offices: 4



Centre to Centre distances between different buildings are as follows:

Block A to Block B	100 m
Block A to Block C	70 m
Block A to Block D	20 m
Block B to Block C	150 m
Block B to Block D	120 m
Block C to Block D	140 m

Each of the above buildings has following number of computers

A	65
B	30
C	25
D	40

(i) Suggest and draw the layout for a network, with proper justification to connect all the office

(ii) Where would the following preferably be placed

- Bridge
- Repeater

(iii) Suggest the most suitable place to house the server for the organization with proper justification.

(iv) If the organization needs to link up to a branch office which is in a neighboring city, (around 100 km distant) suggest the best type of cabling connection, from the building hosting the server, provided price is not a factor.

Answering Scheme - SAMPLE QUESTION PAPER 2
MULTIMEDIA & WEB TECHNOLOGIES (Code 067)
Class XII

Max. Marks : 70 **Duration : 3 hrs.**

1. a)

Number	**Auto Number**
1. The Number data type can be used for storing various kinds of numbers such as integers, decimals etc.	1. The Auto Number data type is used for storing only integer numbers.
2. These values are input by the user	2. These values are automatically generated when a record is added.
3. They need not be in sequence	3. The Auto Number data type is used or unique sequential (incrementing by 1) numbers

1

(1 mark for any one correct differentiation point)
(½ mark if only 1 option is correct)

b) i) .MDB 1

ii) Datasheet View

(½ mark for each option)

c) PNG stands for Portable Network Graphics. 1

(1 mark for correct full form)
(½ mark if only two of the characters are correctly expanded)

d) i) A many to many relationship exists between table Book and table Issue 1

(1 mark for naming the correct relationship type)

ii) The field Acc_No can be set as the primary key for the table Book. 2

The field Acc_No can be set as foreign key for the table Issue.

(1 mark each for correctly naming the primary key and foreign key)

e)

.FLA format	**.SWF format**
1. Flash movies in the authoring environment have the FLA extension	1. A movie exported as a Flash Player movie has the SWF extension.
2. A .FLA movie file can only be viewedusing the Flash software	2. The .SWF file can be viewed even without the Flash software as it contains a self-contained Flash Player included within the movie itself.
3. The .FLA file can be edited	3. The .SWF file cannot be edited

2

(1 mark each for any two correct differences)

f) Mr. Raja Maheshwari should save the images in JPEG format because it sup ports lots of colours (suitable for shading), and JPEG real life static photographs are more compressed than GIF. 2

(1 mark for naming the correct format)

(1 mark for the correct justification)

2. a) Frame rate is the number of animation frames displayed per second. It increases or decreases the speed with which the movie is displayed on the screen. 1

(1 mark for correct definition)

b) A motion guide layer lets the designer draw paths along which tweened symbols can be animated whereas a mask layer is used to create a hole through which the contents of one or more underlying layers are visible. 2

(2 marks for the correct differentiation)

(1 mark if only one is correctly explained)

c) 2

Symbol	**Instance**
1. Symbols are reusable media elements suchas graphics, buttons, movie clips etc. that can be used in a movie.	1. Instance is an occurrence of a symbol
2. The symbol is stored in the file's library	2. An instance is placed on the Stage
3. A change in any of the symbols effect all itsinstances	3. A change in an individual instance need not effect the symbol.

(1 mark each for any two correct differences)

d) Hiding a layer means that the contents of that layer are not visible and locking a layer means that the contents of that layer cannot be edited. 1

(1 mark for the correct difference)

(½ mark if only one option is correct)

e) The following steps have to be followed to animate the given scenario: 4

- Select frame 1 from the timeline and select Insert → New Symbol → Graphic
- Create the red coloured figure given on the left hand side.
- Insert an instance of this symbol in frame 1 by dragging it from the library window.
- Select frame 20 from the timeline and Select Insert Keyframe
- Change the size and shape of the image using scaling button
- Change the colour of the object by selecting Tint option from the Effect palette and selecting the new colour.
- Select any frame between 1 and 20
- Select Create shape tween.

(½ mark for each correct step)

3. The required coding is : 2

```
<HTML>
<FRAMESET ROWS = "25%,*">
<FRAME SRC = "FileA.HTML">
<FRAMESET COLS = "45%,*">
<FRAME SRC = "FileB.html">
<FRAME SRC = "FileC.HTML">
</FRAMESET>
</HTML>
```

(½ mark for each correct <FRAMESET> tag)
(½ mark each for any two correct <FRAME> tags)

b) 8

```
<HTML>
<HEAD><TITLE> Tourism Industry </TITLE></HEAD>
<BODY BGCOLOR="silver" LINK="maroon" VLINK="red">
<H2 ALIGN=center>Hospitality Industry </H2>
<IMG SRC="beach.jpg" HEIGHT=150 WIDTH=200 ALIGN="right">
<P><B>One of the industries which is on the path of rapid
growth is the hospitality industry.
<P>Hotels are broadly classified as:<BR>
<TABLE WIDTH=300 HEIGHT=150 ALIGN=center BORDER=2>
<TR><TH>Hotels</TH><TH>Resorts</TH>
<TR><TD>Leisure Hotels</TD><TD>Hill resorts</TD></TR>
<TR><TD>Business Hotels</TD><TD>Beach resorts</TD></TR>
<TR><TD>Budget Hotels</TD><TD>Heritage resorts</TD></TR>
</TABLE>
<B><FONT SIZE=4 COLOR=maroon>Departments in a Hotel</FONT></B>
<OL><LI><A HREF="front.html">Front Office</A>
<UL TYPE=circle><LI>Reservations
<LI>Reception
<LI>Guest Relations
</UL><BR>
<LI><A HREF="food.html">Food and Beverages</A>
<UL TYPE=square>
<LI>Room Service
<LI>Coffe Shop
<LI>Restaurant
</UL><BR>
</OL>
<HR SIZE=3 COLOR=black>
<FONT SIZE=2><P ALIGN=center>For all further enquires :<A
HREF="mailto:tourist@abc.com">Contact us</A></P>
```

(1 mark for correct use of <HTML> and <BODY> tags)
(1 mark for displaying heading correctly and <HR> tag)
(1 mark for correct use of <IMG> tag)
(1 mark for correct use of <P> and/or <BR> tags to display text given on left side of image)

(1½ mark for correct use of <OL> and <UL> tags in proper nested order)
(1 mark for correct use of <A> tag for creating links)
(1 mark for correct use of <A> tag for creating links)
(1 mark making table correctly)
(½ mark for correct display of bottom message)

4. a) Two technologies which are equivalent to ASP are JSP and PHP. 1

(½ mark for naming each correct equivalent technology)

b) One method of using variables in VB Script is to just start using it wherever needed in the script and VBScript automatically creates the variable. This is called the *implicit method.* Whereas, in the *explicit method,* the variables need to be explicitly declared before using them. Variables are declared by using the dimension statement. This directs the browser to reserve memory for storing data in the variables. 2

For example:

```
<Script Language=”VBScript”>
Dim Name       ‘explicit declaration
Name=”Gopal”
Age=20         ‘implicit declaration
…..
</Script>
```

(1 mark for correct differentiation point)
(1 mark for the example)

c) The string concatenation operator(&) is used to merge two strings together to form a new string. 2

The + operator can also be used for string concatenation. It can handle strings, but when strings are mixed with numbers, it may give ambiguous results.

Example:

```
A=”12"
B=8
N=”Hello”
C=A&B          ‘ C will contain 128
D=A+B          ‘ D will contain 20
E=N&B          ‘ E will contain Hello8
F=N+B          ‘ this will give type mismatch error
```

(1 mark for correct differentiation and 1 mark for example)
(Full 2 marks if the difference is explained only with the help of an example)

d) i) Variable A has global scope while variable B has local scope. 2

(½ mark for each correct scope)

ii) Just before the subroutine StartSub ends, values of both the variables are:

A = 20

B = 20

(½ mark for each correct value)

e) i) THE 1

ii) February 1

iii) 0 1

(1 mark for each correct output)

5. a) The purpose of the special file Global.asa file is to contain information that's global to the application. Each application in ASP has a Global.asa file which is located in the application's root directory. 1

(1 mark for correct purpose)

b) The Response object of ASP contains all the information about the response sent from the web server to a web browser whereas the Request object contains all the information about the HTTP request sent from the web browser to the web server. 2

(1 mark for the correct differentiation)

c) Corrected script with errors underlined: 2

```
<HTML>
<HEAD>
<%
   sub vbproc(num1,num2)
      Response.Write(num1*num2)
   end sub
%>
</HEAD>
<BODY>
<p> Result: <%call vbproc(3,5)%> </p>
<%vbproc 3,4 %>
</p>
</body>
</html>
```

(½ mark for correcting each error)

(1½ mark if all the errors have been identified but the corrected script is not written)

d) Output: 2

B

yB

eyB

!eyB

(½ mark for each line)

e) 3

```
<HTML>
<BODY>
<H1><CENTER>SHLOKA International</CENTER></H1>
The current date and time is: <%response.write(now())%>.
<BR>
<%IF HOUR(TIME())>5 HOUR(TIME())<12 THEN
   RESPONSE.WRITE("GOOD MORNING")
ELSE
   RESPONSE.WRITE("GOOD EVENING")
END IF %>
</BODY>
</HTML>
```

(½ mark for correct usage of server side delimiter)

(½ mark for displaying the correct date and time using now( ))

(½ mark for displaying the name of the company using <H1>)

(1 mark for correct usage of IF statement)

(½ mark for correct display of message according to time)

6. A subroutine is a named block of code that can be called from anywhere in a program to accomplish a specific task that does not return a result to the caller. 1

Example:

```
Sub Sum(a,b)
   Document.Write(a+b)
End Sub
```

A function is a block of code that can be called from anywhere in a program to accomplish a specific task that returns a result or value to the caller.

Example:

```
Function  Sum(a,b)
   Sum = a+b
End Function
```

(1 mark for correct differentiation with the help of example)

b) i) ROUND( ) ½

ii) INSTR( ) ½

(½ mark for each correct function name)

c) 2

```
<SCRIPT LANGUAGE="VBScript">
DIM count,ans
ans=1
```

```
FOR count=2 TO 10 STEP 2
   ans=ans*count
NEXT
document.write(ans)
</SCRIPT>
```

(1 mark for correct syntax of FOR statement)

(½ mark for giving correct value in STEP)

(½ mark for NEXT)

d) Output: 2

MayaRohit

(1 mark for each correct name)

e) 4

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE="VBScript">
Sub ShowResults()
   Dim Result
If chkmovie.Checked Then
   Result = Result & " movies "
End If
If chkbook.Checked Then
   Result = Result & " books "
End If
txtResult.Value = Result
End sub
</SCRIPT>
</HEAD>
<BODY>
<H4>The Check Box Control - Click on a check box.</H4>
<P>Please select the categories that interest you.<BR>
<INPUT TYPE="chECKBOX" NAME="chkmovie"
OncLICK="ShowResults"> Movies<BR>
<INPUT TYPE="chECKBOX" NAME="chkbook" OncLICK="ShowResults">
Books<BR>
<P>
<INPUT NAME="txtResult" SIZE="60">
</BODY>
</HTML>
```

(1 mark for correct declaration and end of sub routine)

(1 mark for correct if statements)

(½ mark for correct use of <FORM> tag)

(1 mark for correctly making checkboxes)

(½ mark for correct usage of onClick event)

7. a) Girish Ramanuj can use Free open source software to save on licensing fee. 1
(1 mark for correct software)

b) A twisted pair consists of two insulated copper wires, each with its own plastic insulation, twisted together in a helical form whereas the Coaxial cable is an electrical cable consisting of a single round conducting wire, surrounded by an insulating spacer, surrounded by a cylindrical conducting sheath, and usually surrounded by a final insulating layer. 2

(2 marks for the correct difference)

(1 mark if only one option is correct)

c) 3

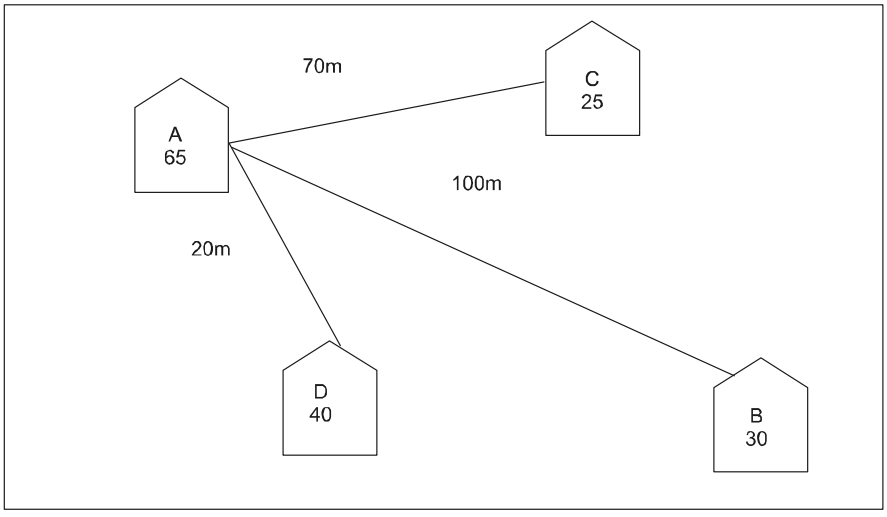
i. **Shareware:** A method of marketing software where a program is distributed freely, and users may try it before paying for it.

ii. **GSM:** Global System for Mobiles, it is the international standard for wireless technology. GSM allows users to utilize one phone and one number in many countries throughout the world.

iii. **TCP/IP:** Transmission Control Protocol/Internet Protocol. A group of protocols that specify how computers communicate over the Internet.

(1 mark for each correct definition)

d) (i) Layout is: 4



(1 mark for correct layout)

(ii)
- A bridge needs to be placed at each of the buildings where the wires from the nodes concentrate, since it is needed to interconnect two segments of a LAN, which uses the same protocol.
- A repeater needs to be placed along the wire between buildings A and B & also between A and C.

(½ mark for suggesting the correct placement of each)

(iii) Building A can house the server, since it contains the maximum number of computers.
(½ mark for naming the correct block)
(½ mark for correct justification)

(iv) Since price is not a factor, Optical Fibre is best suited and shall give best speed.
(1 mark for naming the correct cable type)

SAMPLE PAPER III BLUE PRINT

SUBJECT:MULTIMEDIA AND WEB TECHNOLOGY
PAPER:THEORY

CLASS XII
MAX MARKS:70
TIME:3 HOURS

SNO.	UNIT	KNOWLEDGE			UNDERSTANDING			APPLICATION			TOTAL
		LA	SA	VSA	LA	SA	VSA	LA	SA	VSA	
1	**COMPUTER SYSTEM**			2(2)			1(1)		2(1)		5(4)
2	**WEB TECHNOLOGY**			2(2)		4(2)		4(1)			10(5)
3	**WEB DEVELOPMENT**										
a)	ASP		2(1)			4(2)	2(2)	3(1)	4(2)	5(5)	20(13)
b)	**Review of class XI**										
	HTML			1(1)				8(1)		1(1)	10(3)
	VBSCRIPT					2(1)		4(1)	4(2)		10(4)
4	**MULTIMEDIA AND AUTHORING TOOLS**			3(3)		8(4)		4(1)			15(8)
	TOTALMARKS/NO. OF QUES.										70(37)

NOTE: THE NO. OF QUESTION ARE PUT WITHIN THE BRACKETS AND THEIR MARKS OUTSIDE THEIR BRACKETS.

SAMPLE QUESTION PAPER 3
MULTIMEDIA & WEB TECHNOLOGIES (Code 067)
Class XII

Max. Marks : 70 **Duration : 3 hrs.**

1. a) Name any two types of relationships that can be set between two tables. 1

b) Name the following: 1

(i) A data type which can be used to automatically store monetary values with appropriate sign, commas and decimals.

(ii) A part of the Microsoft Office suite that is used to create and manage databases

c) Name the extension of the file created when a Flash movie is published using a Macintosh projector. 1

d) Study the following data and answer the questions given below:

Table : Student

Adm_No	Name	Class	DOB	Percentage
A101	Sujata	12 A	09/08/1984	78
A102	Anju	12 A	12/07/1983	82
A103	Ananth	12 C	07/08/1984	67

(i) Suggest a field from the above table, which can be set as the primary key. 1

(ii) Suggest the data types that should be used for each of the fields in the above table. 2

e) Give the full forms and a difference between .DAT and a .GIF file with respect to multimedia. 2

f) Shyama Ad Agency is developing an advertisement for one of its clients. The client has specified that the movie should be viewable on DVD players as well as on the internet. Also they want that the viewers should not have to download any special codec to view the file. Keeping these requirements in mind, suggest the most suitable format from the following: 2

(i) AVI

(ii) MPEG

(iii) JPEG

Justify your choice.

2. Answer the following questions based on Macromedia Flash:

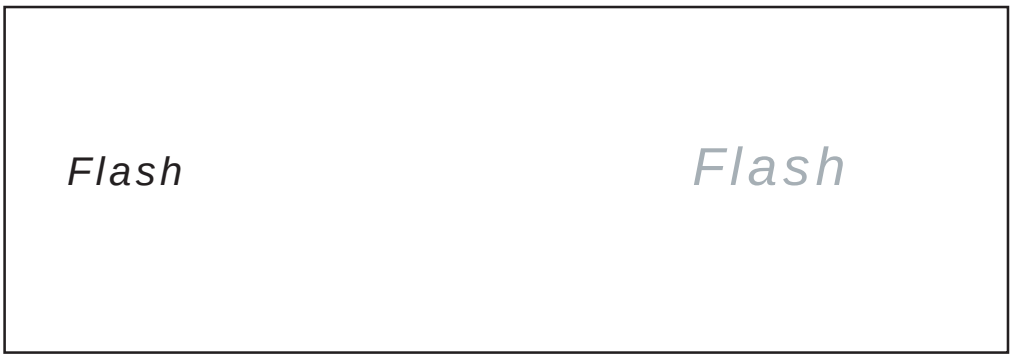
a) What is a key frame? 1

b) Define the term stage. 1

c) Explain the terms Shape Tweening and Motion Tweening with the help of an example. 2

d) Explain the usage of Timeline. Name any two components of the timeline. 2

e) Observe the figure given below and do as directed: 4



- The text on the left hand side shows the position and size for frame 1. The colour of the text is black.
- The text on the right hand side shows the position and size for frame 20. The colour of the text is grey.
- The text moves from frame 1 to frame 20 over a period of time.

Write the procedure and property settings for animating the above scenario.

3. Answer the following questions based on HTML:

a) Write the HTML command to create a textbox which can accept maximum of 20 characters with a default value “Enter Name”. 1

b) Name any two structural tags of HTML. 1

c) Write the HTML code to generate a Web Page in the format given below: 8

Consider the following while writing the HTML code:

1. Background colour of the page should be “Cyan”.
2. Text style should be Comic Sans MS and colour should be Red.
3. Picture used in the page is the file “activity.jpg”
4. Table should have a border of color blue.
5. Use the concept of nested lists for creating the list given in the web page with specified bullets.
6. Pages linked to :
   - Indoor Activities as “in.html”
   - Outdoor Activities as “out.html”
7. Bottom message should be of size 2.

The Little Starlings

Welcome to our World....
The Little starlings is an hobby club that believes in all-round development of a child through various activities.

We offer the following activity choices:

1. Indoor Activities
   - Dramatics
   - Dance
2. Outdoor Activities
   - Horse-riding
   - Swimming

Activity Charges

Activity	Monthly Charges
Dramatics	Rs. 250
Dance	Rs. 350
Horse-riding	Rs. 400
Swimming	Rs. 500

For enquires Mail to us

4. Answer the following questions based on ASP:

a) Write a command to remove the leading and trailing spaces from a character variable NAME, where NAME = "##Smriti# Malhotra###" (where # denotes a blank space). 1

b) Name the web server required to execute ASP on Windows Operating system. 1

c) Observe the following script: 1

```
<SCRIPT LANGUAGE = "VBSCRIPT" RUNAT="SERVER">
   OPTION EXPLICIT
   DIM A, B
   A=0
   B=1
   FOR I=1 TO 5 STEP 1
      C= A*B
      RESPONSE.WRITE C
      A=B
      B=C
```

```
   NEXT
</SCRIPT>
```

Everytime this script is executed, the programmer receives an error as soon as the FOR loop is reached. Identify the error and write the corrected code.

d) Mention any two features of ASP. 2

e) Define variant datatype. Name any two sub-types of the variant datatype. 2

f) Give the output for the following : 3

(i) `Response.Write(LTRIM(LEFT("####Congratulations", 7))`

(where # denotes a blank space)

(ii) `Response.Write((3 *5 > 4 + 5) AND (2 ^ 3 + 9 \ 2))`

(iii) `Response.Write(ABS(3 – 11 * 4))`

5. Answer the following questions based on ASP:

a) Name and specify the usage of any one ASP component. 1

b) Differentiate between Properties and Methods of an object with the help of an example. 2

c) Underline the errors in the following code and write the corrected script. 2

```
<%
DIM fname
fname=Request.Query("fname")
IF fname<>"" THEN
   Response.Output("Hello " fname "!<br />")
   Response.Output("How are you today?")
END
%>
```

d) Give the output for the following code segment: 2

```
<%
Arr=Array(25,14,20,45,25,4,1,31)
max=UBOUND(Arr)
FOR i=max TO 1 STEP –2
   Arr(i)= 10*Arr(i)
   RESPONSE.WRITE (Arr(i) & "<BR>" )
NEXT
%>
```

e) Green Environment Club is a company, which aims at creating an awareness among the people about the ill-effects of pollution. The company wishes to create a web site, which provides information about all their activities. Write the ASP coding for the home page with the following specifications: 3

- To display links to other pages. The links Reuse Recycle, Activities, Join Us link to the files Reuse.ASP, Activity.ASP and Join.ASP respectively.
- To display the number of times the page has been visited.
  The suggested format of the page is shown below:

Environment Club

Welcome to the green world. Click the links below to know more about us.

Reuse Recycle
Activities
Join Us

This page has been viewed 2163 times

6. Answer the following questions based on VBScript:

a) Differentiate between IF…THEN..ELSE and SELECT…CASE statements with the help of an example. 2

b) Write the equivalent script for the following code using DO..WHILE without effecting the output: 2

```
<SCRIPT LANGUAGE="VBScript">
   DIM arr(5)
   counter=1
   DO UNTIL counter > 5
      arr(counter) = counter *counter
      counter =counter + 1
   LOOP
   </SCRIPT>
```

2

c) Give the output for the following script:

```
<SCRIPT LANGUAGE="VBScript">
B=10
FOR A=1 TO 12 STEP 3
   C=A+B
   DOCUMENT.WRITE(C)
   B=B-1
   DOCUMENT.WRITE("<BR>")
NEXT
</SCRIPT>
```

d) Write an HTML code for creating a form, which accepts the birth date from the user in a textbox and displays the day of the week in a message box on the click of a button. 4

7. Answer the following questions based on Communication and network concepts:

a) Name any two units to measure data transfer rate. 1

b) Name the protocol used for sending and receiving e-mails. 1

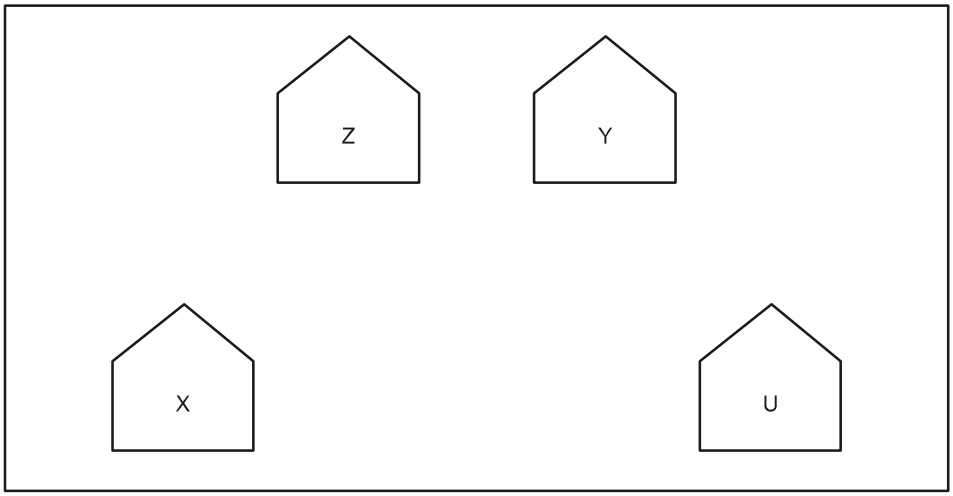
c) Write one difference between a Hub and a Gateway. 2

d) Explain the following terms:

i. Telnet

ii. CDMA 2

e) The Cyber Mind Organisation has set up its new Branch at Mizoram for its office and web based activities. It has 4 Wings of buildings as shown in the diagram: 4



Center to center distance between various blocks

Wing X to Wing Z	40m
Wing Z to Wing Y	60m
Wing Y to Wing X	135m
Wing Y to Wing U	70m
Wing X to Wing U	165m
Wing Z to Wing U	130m

Number of computers

Wing X	50
Wing Z	130
Wing Y	40
Wing U	15

(i) Suggest a most suitable cable layout of connections between the Wings and topology.

(ii) Suggest the most suitable place (i.e, Wing) to house the server of this organization with a suitable reason with justification.

(iii) Suggest the placement of the following devices with justification:

- Repeater
- Hub/Switch

(iv) The organization is planning to link its head office situated in Delhi with offices at Mizoram. Suggest an economic way to connect it; company is ready to compromise on the speed of connectivity. Justify your answer.

Answering Scheme - SAMPLE QUESTION PAPER 3
MULTIMEDIA & WEB TECHNOLOGIES (Code 067)
Class XII

Max. Marks : 70 **Duration : 3 hrs.**

---

1. a) i) One-to-One 1

ii) One-to-Many

iii) Many-to-Many

(Any two)

(½ mark each for naming any two correct types of relationships)

b) i) Currency ½

ii) MS Access ½

(½ mark for each part)

c) The extension of the file created when a Flash movie is published using a Macintosh projector is .hqx. 1

(1mark for naming the correct extension)

d) (i) The Adm_No should be the primary key as it will be unique for each student. 1

(1 mark for naming the correct field)

(ii) 2

Field Name	**Data Type**
Adm_No	Text
Name	Text
Class	Text
DOB	Date/Time
Percentage	Number

(2 marks if all correct data types are given)
(1 mark if atleast 3 correct data types are given)

e) .DAT stands for Data File Format and the .GIF stands for Graphics Interchange Format. 2

A .DAT extension is used for storing files of any kind whereas the .GIF file format is used for image files.

(½ mark for each full form)

(1 mark for the correct difference)

f) MPEG is the most suitable format because MPEG videos can be viewed on DVD player as well as the internet and no special codec is required to view them. AVI format is not suitable because it cannot be played on DVD player and require special codecs to view them. JPEG format can only be used for static images and hence is not suitable. 2

(1 mark for naming the correct format)

(1 mark for the correct justification)

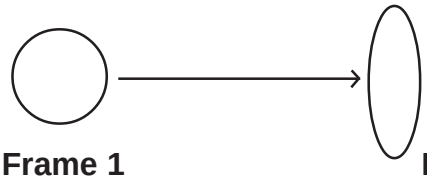
2. a) A keyframe is a frame in which the user can define a change in an animation or include frame actions to modify a movie. 1

(1 mark for the correct definition)

b) Stage is the actual canvas where all the objects to be included in the movie are placed. This is where you draw graphics and preview the movie as you build it. 1

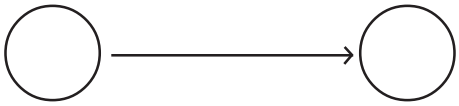
(1 mark for the correct definition)

c) Shape tweening refers to making one shape appear to change into another shape over time. By tweening shapes, you can create an effect similar to morphing. For example: 2



Frame 1 **Frame 20**

Motion tweening refers to changing the position of an object over time. Motion tweening is helpful in creating an animation effect. For example:



(½ mark for each definition)
(½ mark for each example)

d) The Timeline is used to organize and control a movie's content over time in layers and frames so that each movie instance happens at the correct times. The major components of the Timeline are layers, frames, and the play head. 2

(1 mark for the correct usage)

(1 mark for correctly naming any two components of Timeline)

e) 4

- Select frame 1 from the timeline and select Insert → New Symbol → Graphic
- Create the black coloured text given on the left hand side.
- Insert an instance of this symbol in frame 1 by dragging it from the library window.
- Select frame 20 from the timeline and Select Insert → Keyframe
- Change the size of the text
- Change the colour of the text by selecting
- Select any frame between 1 and 20
- Right click the mouse button and Select Create shape tween.

(½ ***mark for each correct step)***

3. **Answer the following questions based on HTML:**

a) `<INPUT TYPE=TEXT MAXLENGTH=20 VALUE="Enter Name">` 1

(½ mark for naming the <INPUT> tag)

(½ mark each for TYPE, MAXLENGTH & VALUE attributes)

b) <HTML>, <BODY>, <HEAD>, <TITLE> 1

(Any Two)

(½ mark each for naming any two structural tags)

c) Coding: 8

```
<HTML>
<BODY BGCOLOR=”CYAN”><FONT FACE=”COMIC SANS MS”>
<FONT COLOR=RED><H2 ALIGN=CENTER> The Little Starlings </
H2></FONT>
<HR SIZE=3 COLOR=BLUE><BR>
<IMG SRC=”ACTIVITY.GIF” HEIGHT=120 WIDTH=180
ALIGN=LEFT>
<P><B>Welcome to our World..... <BR>
<FONT COLOR=Maroon >The Little Starlings</FONT> is an hobby
club that believes in all-round development of a child
through various activities.
<BR><BR><BR><P> We offer the following activity choices:</P>
<OL>
<LI><A HREF=”in.html”>Indoor Activities</A>
<UL TYPE=SQUARE>
<LI>Dramatics
<LI>Dance
</UL><BR>
<LI><A HREF=”out.html”>Outdoor Activities</A>
<UL TYPE=CIRLE>
<LI>Horse-riding
<LI>Swimming
</UL>
</OL>
<TABLE ALIGN=CENTER BORDER=2 BORDERCOLOR=”blue”>
<CAPTION>Activity Charges</CAPTION>
<TR><TH>Activity</TH><TH>Monthly Charges</TH></TR>
<TR><TD>Dramatics</TD><TD>Rs.250</TD></TR>
<TR><TD>Dance</TD><TD>Rs.350</TD></TR>
<TR><TD>Horse-riding</TD><TD>Rs.400</TD></TR>
<TR><TD>Swimming</TD><TD>Rs.500</TD></TR>
</TABLE>
<HR SIZE=3 COLOR=BLACK>
<FONT SIZE=2><P ALIGN=CENTER>For enquires <A
HREF=”mailto:mail@abc.com”>Mail to us</A></P>
```

(1 mark for correct use of <HTML> and <BODY> tags)

(1 mark for correct use of <FONT> tag)

(½ mark for displaying heading correctly

(½ mark for correct use of <HR> tag)

(1 mark for correct use of <IMG> tag)

(1 mark for correct use of <P> tag with <FONT> or <SPAN> tag to change color of text in between)

(1 mark for correct use of <OL> and <UL> tags in proper nested order)

(1 mark for correct use of <A> tag for creating links)

(½ mark making table border color blue)

(½ mark for correct display of bottom message)

4. a) `TRIM(NAME)` 1

OR

`LTRIM(RTRIM(NAME))`

OR

(1 mark for the correct command)

(½ mark to be awarded if only the leading or trailing blanks have been removed)

b) PWS **or** IIS 1

(1 mark for the correct server name)

c) The error is that the variables I and C have not been declared. All variables need to be declared explicitly because of the OPTION EXPLICIT command at the top. 1

Corrected Code:

```
<SCRIPT LANGUAGE = "VBSCRIPT" RUNAT="SERVER">
   OPTION EXPLICIT
   DIM A, B, C, I
   A=0
   FOR I=1 TO 5 STEP 1
      C= A*B
      RESPONSE.WRITE C
      A=B
      B=C
      NEXT
   </SCRIPT>
```

(½ mark for identifying the error)
(½ mark for writing the corrected code)

d) Two features of ASP: 2

- ASP contains server-side scripts, objects and components.
- ASP is capable of adding dynamic content to a web page

(1 mark each for any two correct features)

e) A Variant is a special kind of data type that can contain different kinds of information, depending on how it's used. 2

Sub-types of the variant data type are: Empty, Null, Boolean, Byte, Integer, Long, Currency, Single, Double, Date, String, Object. **(Write any two)**

(1 mark for correct definition)

(½ mark each for naming any two correct sub-types)

f) i) Con 1

ii) 12 1

iii) 41 1

(1 mark for each correct output)

5. a) Ad Rotator component – used for controlling the rotation of advertising images in a website 1

OR

(½ mark for naming any one component)

(½ mark for its usage)

b) An object's methods determine the things that one can do with the object whereas an object's properties can be set to specify the state of the object. For example: 2

Object : Book

Method : Read the book

Properties : Number of pages in the book, author of the book

(1 mark for the differentiation point)

(1 mark for the example)

c) Corrected code with errors underlined: 2

```
<%
DIM fname
fname=Request.QueryString("fname")
IF fname<>"" THEN
   Response.Write("Hello " & fname & "!<br />")
   Response.Write ("How are you today?")
END IF %>
```

½ mark each for correcting any 4 errors)

(Give 1½ mark if the child has identified errors but not written the corrected code)

d) 310 2

40

450

140

(½ mark for each correct line of output)

e) **Coding:** **3**

```
<HTML>
<TITLE>ASP TRY</TITLE>
<BODY>
<P>
Welcome to the green world. Click the links below to know
more about us.
<P>
```

```
<A HREF= "Reuse.ASP"> Reuse Recycle </A> <P>
<A HREF= "Activity.ASP"> Activities </A> <P>
<A HREF= "Join.ASP"> Join Us </A> <P>
</P>
<%set pgCount = Server.Createobject("MSWC.PageCounter")%>
<%pgCount.PageHit%>
This page has been viewed <%=pgCount.Hits%> times
</BODY>
</HTML>
```

(1 mark for creating the hyperlinks)

(1 mark for creating the Server object)

(1 mark for using PageHit & displaying the count)

6. The **If...Then** statement offers only one alternative for the value being checked whereas SELECT … CASE is well suited for situations where there are a large number of possible conditions for the value being checked. For example: 2

`If Location = "Delhi" Then`
`  ShippingFee= 400`
`Else`
`  ShippingFee = 500`
`End If`
	`Select Case Location`
	`  Case "Delhi"`
	`  ShippingFee= 400`
	`  Case "Mumbai"`
	`  ShippingFee= 300`
	`  Case Else`
	`  ShippingFee = 500`
	`End Select`

(1 mark for the correct difference)
(1 mark for the example)

b) The code using DO… WHILE is: 2

```
<SCRIPT LANGUAGE="VBScript">
DIM arr(5)
counter=1
DO WHILE counter <= 5
   arr(counter) = counter *counter
   counter =counter + 1
LOOP
</SCRIPT>
```

(1 mark for correct syntax of DO..WHILE loop)
(1 mark for correct condition check of counter)

c) 11 2

13

15

17

(½ mark for each correct output line)

(Give 1½ marks if the output is given without line breaks)

d) 4

```
<HTML>
<HEAD>
<SCRIPT LANGUAGE=”VBSCRIPT”>
SUB fun
   DIM w,dat,d
dat=cdate(document.f1.txt1.value)
w=weekday(dat)
SELECT CASE w
   CASE 1
      d=”Sunday”
   CASE 2
      d=”Monday”
   CASE 3
      d=”Tuesday”
   CASE 4
      d=”Wednesday”
   CASE 5
      d=”Thursday”
   CASE 6
      d=”Friday”
   CASE 7
      d=”Saturday”
END SELECT
MSGBOX “You were born on :”& d
END SUB
</HEAD>
<BODY>
<FORM NAME=”F1">
<P> Enter your date of birth :<INPUT TYPE=”TEXT”
NAME=”TXT1"><BR><BR>
<INPUT TYPE=”BUTTON” NAME=”B1" VALUE=”CLICK ME!”
ONCLICK=”FUN”>
```

(1 mark for correct declaration and end of sub routine)
(1 mark for correct calculation of day)
(½ mark for correct use of <FORM> tag)
(1 mark for correctly creating the text box and button)
(½ mark for correct usage of onClick event)

7. a) Data transfer rate is measured in bps (bytes per second), kbps (kilobytes per second), Mbps (Megabytes per second), Gbps (Gigabtyes per second) or Tbps (Terabytes per second). 1

(½ mark each for naming any two correct units)

b) SMTP 1

(1 mark for the correct protocol name)

c) Hubs are commonly used to connect segments of a LAN whereas a gateway is a device that connects dissimilar networks. 2

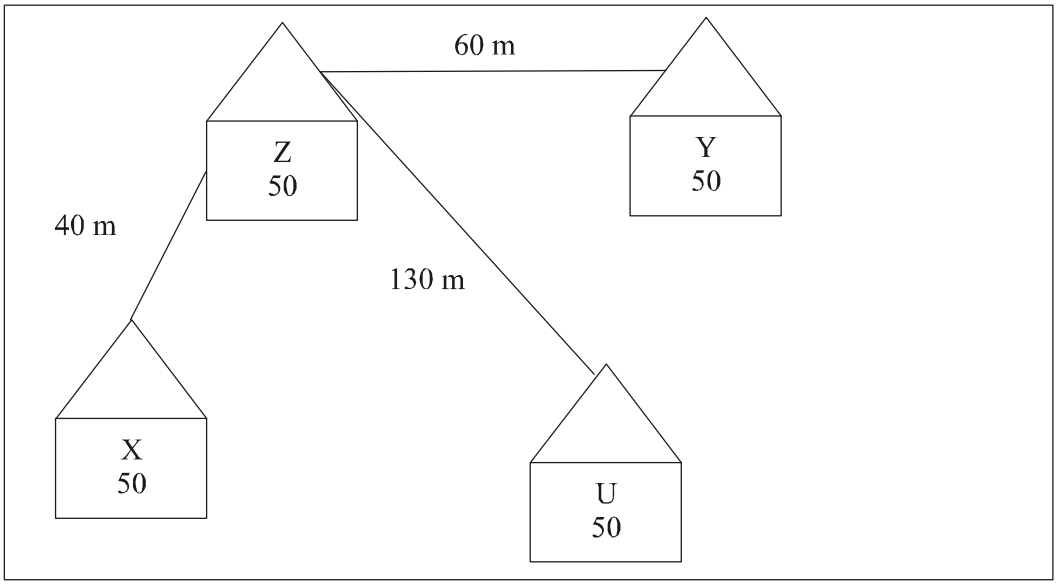
(2 marks for the correct difference)

d) i. **Telnet**: A text-based Internet program used for connecting to a remote host or server. 2

ii. **CDMA**: Code Division Multiple Access: a digital wireless telephony transmission technique.

(1 mark for each correct definition)

e) (i) Most suitable layout: 1



(1 mark for the correct layout)

(ii) Wing Z as it has largest number of computers.

(½ mark for naming the correct block)

(½ mark for correct justification)

(iii) A **repeater** needs to be placed along the wire between wings Z to U as the distance between them is more than 70 m.

A **hub/switch** each would be needed in all the wings, to interconnect the group of cables from the different computers in each wing.

(½ mark for correct placement)

(½ mark for correct justification)

(iv) TCP/IP Dial Up as it is the most economic option with a reasonable speed.

(½ mark for correct technology)

(½ mark for correct justification)

Design of the question paper

Home Science – XII (064)

Time : 3 Hours **Maximum Marks : 70**

The weightage of the distribution of marks over different dimensions of the question paper shall be as follows :

A Weightage of content units.

Unit	Content	
1	Know little children	17
2.	Nutrition for self any family	17
3.	Money management and consumer education	17
4.	My apparel	17
5.	Things I can do with my Home Science education.	02
	Total	**70**

B. Weightage to different forms of Questions.

S.No.	Forms of Questions.	Number of Questions	Marks for each question	Total Marks
1	Vey Short Answer (VSA)	7	1	7
2	Short answer (SA I)	11	2	22
3	Short answer (SA II)	7	3	21
4	Long Answer	5	4	20

C.1. There will be no internal choice.

D Weightage to difficulty level of question.

S.No	Estimated Difficulty	Percentage
1	Easy	15
2	Average	70
3	Difficult	15

Topics	**VSA 1 Marks**	**SA 2 Marks**	**SA 3 Marks**	**LA 4 Marks**	**Sub Total**	**Total Marks**
Specific characteristics of children	1(3)	2(1)		-	2(1) 3(1)	5
Protection from preventable diseases	1(1)	-	3(1)	-	1(1) 3(1)	4
Specific needs of diadvantaged and disabled children	-	-	-	4(1)	4(1)	4
Subsitute care at home and outside	-	2(3)	-	-	2(3)	6
Planning meals for famliy	-	2(1)	3(2)	-	2(1) 3(2)	8
Ways to ensure good health	1(1)	-	3(3)	-	1(1) 3(3)	10
Family income Saving and Investments	- -	- -	3(1) -	- 4(1)	3(1) 4(1)	03 07 04
Consumer protection	1(1)	2(1)	-	4(1)	1(1) 2(1) 4(1)	07
Clothing and its relationship to Personality	-	2(2)	-	4(1)	2(2) 4(1)	08
Checking size of quality in ready made garments	-	2(1)	-		2(1)	02
Care of clothes	1(1)	2(1)		4(1)	1(1) 2(1) 4(1)	07
Things I can do with my training	1(7)	2(1) 2(11)	3(7)	4(5)	2(1)	2
Total Marks	**07**	**22**	**21**	**20**		**70**

Sample question Paper (2012)

CLASS XII Home science

Code: 064

MM: 70 Time :3 Hrs.

1. Name the standard mark given for chocolate biscuits and turmeric powder. [1]
2. What is the role of gestures in the language development of a child? [1]
3. Height of one year old Raghu is 70 cm. State his possible height when he will be two and three years old. [1]
4. Why is friction method not used for washing silks? [1]
5. Indicate the age at which a child starts standing with support. Give one other motor ability of this stage. [1]
6. Apart from unhygienic conditions, under what other conditions did PFA declare the carrot burfi sold in the village fair as adulterated. [1]
7. Define incubation period in your own words. [1]
8. Identify two signs each of social and cognitive development in a one year old child. [2]
9. Compare the substitute care given inside and outside the home? [2]
10. What points would you look for while evaluating the safety features of a crèche? [2]
11. Geeta has appeared for her class 12th examination. She wants to become a dietetian. Guide her for her further education and name any two agencies where she can get employed? [2]
12. Convince the women from a village to visit the nearby ICDS centre with at least four reasons. [2]
13. Why is it important to plan meals? Give at least four reasons. [2]
14. Government provides warning signs below advertisement of injurious substances. Which right of consumers is fulfilled by these two activities? What do you understand by this right? [2]
15. Sudha is dissatisfied with her ready made frock. Give four reasons for her dissatisfaction. [2]
16. Keeping all elements in mind, suggest a sari blouse for your mother whose arms are heavy and stomach is protruding. [2]
17. What four points would you keep in mind while lodging a complaint in the district forum? [2]
18. Write four important precautions you would adopt while using chemicals to remove stains from an expensive dress? [2]

19. A family has been served bread, fried egg and milk . Analyse this meal in context to nutrition and modify to suit the requirements of a person suffering from diarrhoea. [3]
20. The villagers are suffering from skin rash. The doctor has ascribed the cause to some adulterant in their diet. Identify the possible adulterant along with its two other symptoms and three health hazards of consuming these? [3]
21. Suggest two safe methods of purifying water to the villagers. Educate them to store it carefully. [3]
22. On the basis of which unhygienic conditions did Rini decide not to eat the snacks sold by the roadside vendor? [3]
23. Suggest three ways of increasing real income of your family [3]
24. Ramu is suffering from low grade fever for the past two weeks. He has a peculiar odour in his breath . Identify the disease he is suffering from along with its other three symptoms. What precautions should be taken to prevent this disease from spreading? [3]
25. How can a family meal get influenced by its structure, resources and religious beliefs? Explain with the help of any two examples of each. [3]
26. Rajesh wants to invest in a scheme which can earn higher interest than his savings account. Suggest at least two safe schemes to him which can fulfill this criteria. Educate him on at least three features of each. [4]
27. List any four consumer aids which you can use to your advantage. How? [4]
28. What four points each would you consider to buy a night suit which is comfortable and easy to maintain. [4]
29. Elaborate the steps you would adopt while washing cotton fabrics at home? [4]
30. You have a classmate who is hard of hearing. What are her psychological needs? How can you help her adjust in the class? [4]

Marking Scheme of Sample question Paper (2012)

CLASS XII Home science

Code: 064

MM: 70 Time :3 Hrs.

1. i ISI
   ii Agmark [½ x2=1]
2. i. Helps to emphasize speech
   ii.Supplements speech [½ x2=1]
3. i. 80-85 cms
   ii.90-95cms [½ x2=1]
4. Silk becomes weak when wet/may get spoilt with friction method [1 mark]
5. i. 7 months (½ mark)
   ii. Crawls on stomach
   iii. hold two items in hand/pincer grasp (ii-iii any one) [½ x2=1]
6. i. Carrot is insect infected.
   ii. Milk is adulterated
   iii. Contains too much of colour/unpermitted colour (any two) [½ x2=1]
7. The interval from reception of infection till the appearance of actual symptoms of a disease is called incubation period. [1 mark]
8. **Social**.
   i. Refrain on saying no,
   ii. Copy adult activities
   iii. Imitates simple acts, gestures, speech (½ mark each)
   Cognitive
   i. Behaviour intentional
   ii. AB search error
   iii. Repeats action in different ways (any two) [½ x4=2]
9.

Inside	Outside
i. Familiar surroundings	i. Unfamiliar surroundings
ii. Does not have to face weather conditions	ii. Face weather conditions
iii. Personal attention	iii. No personal attention
iv. Has no company of own age	iv. Has company of own age
v. Does not learn to share	v. Learns to share

Any four [½ x4=2]

10. i. Toys not sharp
    ii. Boundary unfenced
    iii. Railing on stairs/
    iv. Grills on windows
    v. Floor is dry
    vi. Trained staff to handle emergencies [½ x4=2]
11. i. She does B.Sc. Home science and then pursue one year dietetics course with intern ship from any hospital.
    ii. She can be employed in a slimming centre/hospital/ as nutritionist in hotel, any other [1x2=2]
12. i.Get tetanus shots in pregnancy
    ii. Supplementary feeding
    iii. Educated about hygiene and sanitation, child spacing
    iv. Obstetrical services [½ x4=2]
13. **Helps to plan**:-
    i. nutritional meals
    ii. low cost meals
    iii. incorporate variety
    iv. introduce flexibility
    v. any other (any four) [½ x4=2]
14. i. Right to safety
    ii. It refers to protection against marketing of products and services that are harmful [1 x2=2]
15. i. Not enough allowance at hem and seams.
    ii. Thread used for stitching is not matching and strong.
    iii. zip is not sliding smoothly
    iv. Base of zip not matching with basic.
    v. Puckering at underarm. (Any four) [½ x4=2]
16. **Arms heavy**
    i. full sleeves/3/4 length of sleeves
    ii. No embroidery on upper arm./ no puff sleeves
    iii. Any other

    Stomach protruding

    i Long blouse to cover stomach
    ii Do not use contrast coloured blouse

iii Any other **[½ x4=2]**

17.

i. Receipt /bill

ii. Copy of registered AD

iii. Facts relating to complaint

iv. affidavit that contents are true

v. Name and address of both parties

vi. Relief sought (any four) **[½ x4=2]**

18.

i. Use mild chemicals

ii. Work from outside to inside

iii. Test chemicals in hidden corner.

iv. Immediately rinse out all chemical

v. Any other **[½ x4=2]**

19.

All food groups are not included/ for example vegetable/ fruit in the meal(1 mark)

i. Toast the bread with no butter

ii. Give banana

iii. Tea /curd

iv. Lot of fluids (any three) **[½ x4=2][1+2=3]**

20.

i. Argemone **(½ mark)**

Symptoms:

i Swelling in legs and arms

ii Irregular fever

iii Low pulse rate **(any two)**

Health hazards

iv Liver gets enlarged

v renal failure respiratory distress

vi Blindness **(½ mark each)** **[1 ½ + 1 ½ =3]**

21.

i. Boiling

ii. Chlorine tablets **(½ mark each)**

Storage tips:

iii. keep in clean container

iv. covered

v. use long handle utensil to dispense water/ not dip fingers

vi. keep in clean place [½ x4=2] [1+2=3]

22. **Roadside food vendor:**

i. Wash utensils in dirty water

ii. Dip fingers in food/water

iii. Did not wear gloves

iv. Not cover food

v. Uses stale food

vi. Taste food by licking

vii. Work in dirty surroundings (any six) [½ x6=3]

23. Real income:

i. do repair work themselves and save on electrician(any other example),

ii. use family assets judiciously- Grow vegetables in pots/ live in own house and save on rent.

iii. Using community facility(library, local transport) Fringe benefits –perks with job free petrol, driver, reimbursements of bills.

iv. Barter system- exchange goods with each other.

v. Paying for and enjoying good quality goods and services (any three) [1x3=3]

24 **Disease**

Tuberculosis (½ mark)

Symptoms

i Scanty menses

ii Persistent Cough

iii does not feel hungry

iv excessive fatigue

v loss of weight (any three)

Precautions

Vaccinate all new born children

Isolate patient

Disinfect all articles used by patients (any two) [½ x6=3]

25 **Structure**

i Age - children need more energy, protein and calcium

ii Activity – heavy worker need more calories

iii Sex – boys need more calories (any two)

Resources

i. Food availability – use seasonal foods

Sample Question Paper

Agriculture (Theory)

Class XII

Time : 3 hours **M. M : 70**

General Instructions :

(i) All questions are compulsory.

(ii) Marks for questions are indicated against each of them.

Q.1 (A) Define commercialisation of agriculture. Give its two objectives. Name two major commercial crops of India. 1+2+2=5

(B) Write five major soil groups of India. Give two major characterstics of alluvial soils. 3+2=5

Q.2 Write brief notes on the following : 2x5=10

(i) Soil tilth
(ii) Black cotton soils
(iii) Two green manuring crops.
(iv) Cultural methods of weed control.
(v) Raising fertilizer use efficiency.

Q.3 (A) Fill in the blanks: 5

(a) Scientific name of berseem is _____.
(b) Cyperus rotundus is propagated through _____.
(c) Zinc deficient soils in North India normally needs application of _____ to _____ kg/ha of Zinc-Sulphate.
(d) Percent content of P_2O_5 in single super phosphate is _____.
(e) Place of origin of wheat is _____.

Q.3 (B) Differenciate between the following : 5

(a) Cereals and Legumes
(b) Soil texture and soil structure
(c) Flood irrigation & Furrow irrigation.
(d) Drilling of seeds & dibbling of seeds.
(e) Transplanted rice and direct seeded rice.

Q.4 Describe the cultivation of rice and groundnut crop under the following heads: 2x5

(i) Scientific name.
(ii) Place of origin.
(iii) Seed rate per hectare.
(iv) Processing of the produce for the market.
(v) One major insect and one major disease.

Q.5 (A) Match the following: 5

Crops	Propagated by
(i) Gladiolus	(i) Seed
(ii) Banana	(ii) Corm
(iii) Roses	(iii) Suckers
(iv) Merigold	(iv) Budding
(v) Cannas	(v) Rhizomes

Q.5 (B) Differentiate between the following: 5

(i) Trees and Shrubs
(ii) Annuals and Perennials
(iii) Cutting and Layering methods of Propagation
(iv) Training and Prunning
(v) Hedges and Edges

Q.6 Describe the cultivation practices of cauliflower and gladiolus on the following points: 2x5

(i) Scientific name
(ii) Seed rate per hectare
(iii) Processing for the market
(iv) Manuring Schedule
(v) Name of one major insect and one major disease.

Q. 7. Describe the cultivation of Mango and Guava on the following points. 2x5

(i) Scientific name.
(ii) Two major propagation methods.
(iii) Two important commercial varieties.
(iv) One major insect and one major disease.
(v) Manuring schedule for bearing plant/tree.

Answering Scheme

Agriculture (Code No. 068)

Theory Paper

Class XII

Time : 3 hours **M. M : 70**

General Instruction :

(i) All question are compulsory

(ii) Marks for questions are indicated against each of them.

Q.1 (A) (a) Commercialization denotes growing of crop(s), the produce of which may be processed for value addition and marketing locally, nationally and/or internationally for higher profits whenever such a demand exists. In practice a large contiguous area in a region is put under such a commercial crop(s). This may be achieved through diversification of the existing cropped area and cropping patterns through substitution with the area specific commercial crops.

(b) Two major objectives of commercialization of agriculture are :

(i) To augment the total income of the farmer per unit area and input applied to the commercial crop.

(ii) All the field and management operations are common for commercial crops hence crop management is economical.

(c) Two major commercial crops are :

(i) Cotton (ii) Sugarcane

(B) Five major soil groups of India are :

(i) Alluvial soil
(ii) Black cotton soil
(iii) Red Lateritic soil
(iv) Red soil
(v) Hill soil

Characteristics of alluvial soil are :

(i) These are extensively deep soils formed by alluvial deposits by major rivers. These are sandy loam to clay loam in texture.

(ii) These soils are neutral to moderately alkaline in reaction (ptt 6.5 to 7.5) and are mostly calcarious in sub-soil (strata)

Q.2. Short Notes

(i) Soil Tilth:

It represents the physical condition of the soil with respect to planting and growth of field crops. Tilth means the cultivation of soils, primary tillage for preparation of soil, for pre planting/preseeding i.e., preplanting cultivation. Secondary tillage which denotes cultural operations carried out for sowing/ planting/ interculturing / earthing up etc.

(ii) Black cotton soils:

Two major characteristics of these soils are :

(a) These are derived from deccan drop, which are known as regur or black cotton soil. These are loam to clay in texture, have high water holding capacity (WHC).

(b) These soils develop deep cracks in summers particularly in areas consisting primarily of predominantly montmorillonitie type of clay varying between 40 and 60 percent.

(iii) Green manuring crops:

Major Green Manuring (GM) crops are:

(a) Sannhemp
(b) Dhaincha

Both crops are grown in South-west (monsoon season during summer months under irrigated conditions. These are ploughed into the soil by flowering stage (30-40 days after sowing), but before sowing the next crop.

They add organic matter and add 70 to 80 kg nitrogen per hectare by biologically fixing free atmospheric nitrogen.

(iv) Cultural methods of weed control are :

(a) These are used to provide weed free condition to the crops.
(b) Use clean tillage equipment
(c) Intercultural operations
(d) Hand weeding
(e) Intercropping

(v) Raising of fertilizer use efficiency :

(a) Applying fertilizers based on soil test values.
(b) Use organic manures, green manures.
(c) Incorporation of crop residues
(d) Include legumes in crop sequences.
(e) The proper method of application.

Q.3 (A) Fill in the blanks:

(a) Trifoleum alexandrinum
(b) Nuts
(c) 20 - 25 kg Zinc sulphate/ha
(d) 16 percent P_2O_5
(e) Central Asia

Q.3 (B) Differentiation:

(a)

Cereals	Legumes
Cereals are big crops belonging grass family (gramineal) which are grown for food purposes, edible portion is highly starchy. It is botanically cariopsis. Cereal means grains of rice, wheat, barley, maize, sorghum, millets etc.	The word legume is derived from the latin word legre (to gather) because pods are harvested (gathered) by hand, these belong to family Leguminoseae. These have nitrogen fixing nodules on their roots and they fix nitrogen through Rhizobium. Legumes crops are all pulses e.g. pigeonpea, gram, pea etc.

(b)

Soil Texture	Soil Structure
Soil texture is an expression of the distribution of various particles present in the soil. A soil may be described as coarse, medium or fine (heavy) textured depending on predominance of different primary soil particle sizes e.g. sand (coarse and fine), silt and clay. There are textural classes like clay, sandy clay, loam, clay loam, loamysand etc.	The combination of arrangement of primary soil particles into secondary particles i.e. groups of aggregates mostly bounded together by cementing agents like organic matter into secondary aggregates of varying sizes and shapes like platty, prismatic, columnar, granular, crumb.

(c)

Flood Irrigation	Furrow Irrigation
Flooding the soil with irrigation is watersurface irrigation method. Prior to applying flood irrigation, proper levelling and grading of land is a must. Normally, water use efficiency is low in flood irrigation particularly in canal command areas. It is followed in rice and other water loving crops. It causes water logging and salinization of soil. There are very heavy losses. Flood irrigation is substituted by gated pipes, surface irrigation	In furrow irrigation water is diverted to a head ditch or a pipeline along the upper edge of the field and then it is diverted into a parallel furrow running down with flow. It is adopted in a variety of slopy crops and topography. The longer the furrow, heavier is the percolation losses of water. The furrow length varies from 13m in sandy soil to 300m in heavy soils.

(d)

Drilling of seeds	Dibbling of seeds
The practice of placing of the seeds in rows at a proper row to row and plant to plant spacing using a uniform seed rate and controlled soil depth with or without covering the seed with soil. It is done by pora (funnel) method or by mechanical seed-drill or by	Dibbling is method of sowing or planting of crop seeds in the hole made manually by using a dibbler by which specific spacing of optimum plant population is manitained. This is used for planting of seeds of vegetables and field crops like cole crops, rice, maize etc. Dibbling machines are easily available.

fertiseed-drill. The objective is to obtain the optimum plant population per unit area and to economise on seed rate.	

(e)

Transplanted Rice	**Direct seeded Rice**
This is the best system of rice culture. In this system the land is ploughed 2-3 times with 5-6 cm standing water in the field called puddling. The aim of puddling is to soften the soil for easy planting of seedlings. It reduces infiltration losses of water and leaching of nutrients. Seedlings from the nursery should be healthy, 4-5 leaf stage of 20-25 cm height. Two-three seedlings per hill be planted keeping the depth of 2-4 cm at 15x15 cm spacing.	Direct seeded rice may be grown under wet or dry seeding condition. Wet seeded rice is sown on a puddled seed bed with pre-germinated seed after draining excess water from the field to ensure good germination and stand of the crop. The seed is usually sown broadcast either by hand or using seed drill. The seed rate is maintained at 80-100 kg/ha. In dry seeded rice seeds are broadcast or sown by pora method or by a seed drill. The major disadvantage of direct seeded rice are bird and insect damage, seeds may be washed away by heavy rain, weed problem is high and hard, that is why yield of direct seeded rice is low.

Q. 4

Cultivation of rice	**Cultivation of groundnut**
1. Oryza sativa 2. South East Asia 3. 80-100 kg/ha (Direct seeding) 20-25 kg/ha (Transplanting) 4. Cleaning, drying, grading, bagging and labelling 5. Rice stem borer Rice blast	1. Arachis hypogea 2. Brazil 3. 80-110 kg/ha (Bold seeded) 60-75 kg/ha (Small seeded) 4. Cleaning, Drying, grading, bagging and labelling 5. Pod borer Tikka disease

Q.5 (A) Match the following :

1. Gladiolus	-	corm
2. Banana	-	Suckers
3. Roses	-	Budding
4. Marigold	-	Seed
5. Cannas	-	Rhizome

(B) **Differentiation :**

(i) Trees and Shrubs

a) Trees are perennial, tall with marked trunk. The height of full grown trees is normally more than 15 feet.

b) They grow for several years, bear flowers and fruits.

c) They provide us fruits, shelter, shade, fuel wood & timber wood.

d) Mostly used as specimen for avenue plantation.
Examples - Neem, Sisham, Peepal

Shrubs

a) They produce beautiful flowers at eye level and fragrant shrubs at nose level.Their height is normally below 10'

b) Display their beauty by richly coloured flowers, beautiful shape, handsome and variegated foliage.

c) They are very popular in gardens for boundary wall, screening purposes to hide unwanted places like manure pits, dust bins and also to separate the area as ladies corner or children corner.

d) They have branches from the base and thus grow densely.

e) Cutting back or pruning their growth is very important to improve the perfomance of the plant.

Examples - Chandani, Kaner, Jetropha, Raat ke Rani, Acalypha

(ii) Annuals and Perennials

Annuals or seasonals are the group of plants which complete their life cycle in one season or one year. They exhibit a good show of blooms at low cost & labour.
Examples: Pansy, Petunia, Marigold, Calendula.

Perennials are those group of plants which servives for several years.
Examples: Raat ki Rani, Roses, Bougainvillea etc.

(iii) Cutting and layering methods of propagation

a) The cuttings are first detached from the scion plant and then rooted while in layering, the branch is first rooted on the scion plant and then detached.

b) The percentage of success is more in layering than in cutting.

c) Propagation of plants through cutting is easier and economical while through layering, it is expensive and cumbersom.

(iv) Pruning and training of plants

Training primarily concern the form and its purpose is to establish the frame work of the plant with systemic distribution of various parts on support to obtain maximum benefit. The plant is provided or tied with some support. This is more common in plants having tender growth and climbing habit. Its requirement is mostly in the initial stage of plant growth. For example, in grapes and chrysanthemum.

Pruning comprises the removal of certain parts of the plant affecting the physiological function in promoting better quality products. It also assists in a better distribution of the produce and to maintain it in a managable form. In this respect it also facilitates training. Pruning is normally practiced in the dormant stage of the plants.
Example - Roses, Apple.

(v) Hedges and edges

Hedge:

a) When shrubs are planted on boundary for fencing, it is called as hedge.

b) They can be trimmed to get different shapes.

c) They are normally taller in height which is more than 2' and hard in nature.

d) They are mostly used for protection purposes.

Example - Cleridendron inermii, Hibiscus species, Bougainvilleas.

Edges

a) When low growing perennial plants are grown on the border of plots or beds they are called as edges.

b) These hardly grow up to 20-30 cm.

c) They are also planted around rockery, big trees, alongside walks, pathways and to divide the area.

d) They are mostly herbacious in nature.

Example - Iresine, justicia.

Q.6 (A) Cauliflower

i) Scientific name - Brassica oleracea

ii) Seed rate per/ha - 500 to 700 gram

iii) Processing for the market : At harvesting stage the head should be compact. The plant is cut off well below the head so that the stub thus left protects the head from damaging. Cauliflower heads are tender and damaged easily, therefore, their leaves around the head should be cut about 1-2 inches above the head and packed securely in baskets for the market.

iv) Manuring schedule :

a) At the time of field preparation - 200 q. of F.Y.M/compost 60kgN, 80kg. P_2O_5 and 80 kg K_2O/ ha

b) About 15 days after transplanting - 60Kg N/ha

v)

Insect	**Diseases**
Diamond back moth	Damping off

Q.6 (B) Gladiolus

i) Scientific name - Gladiolus grandiflorus or G hybride

ii) Seed rate/ha - 1,50,000 corms

iii) Processing for the market:

Processing of the spikes : Its spikes for the maket are harvested when basal floret of the spike shows colour. Their havesting is done leaving about 6'' from the ground level and immediately kept in the bucket of water. Their 1 or 2 lowest leaves are removed for easy handling. For local market after grading the spikes according to the length, bundles of 20 spikes are made with the help of rubber bands. News paper sheets are used to protect the rubbing of flowers.

For long distance market, these spikes are graded and packed in cardboard boxes measuring 100x25x10cm.

Processing of the corms : After lifting the corms their leaves and old corms are removed. Treated with 0.2% bavistin for 30 m, dried in shade for 2-3 weeks. Sale can be done at this stage also. Otherwise keep in cold storage after packing either in gunny bags or shallow wooden crates till next planting season. These can be sold at this stage also or sown in the field.

iv) Manuring Schedule

500 Kg/ha FYM or compost one month before planting.

NPK - 150 : 150 : 200 Kg/ha at the time of planting.

75 kg N/ha at 3 leaf stage.

75 kg N/ha at 6 leaf stage.

(v) **Major insect**

Thrips

Major disease

1. wilt or color rot

Q.7. Cultivation of Mango and Guava:

		Mango	**Guava**
i)	Scientific name	Mangifera Indica	Psidium guajava
ii)	Two major prapagation methods	Inarching Vencer grafting	lnarching Air layering
iii)	Two important commercial varieties	Dashari, langara	Allahabad Safeda, Chittidar
iv)	One major insect and disease	Mango hoppers Mango malformation	Fruit fly Guava wilt
v)	Manuring schedule for bearing plant/tree	In the month of June 100-150 fym/ha 8 to 10 Kg N 2 Kg P 1 Kg K	100-150 Kg. leaf mould 3 Kg. ground nut cake 2 Kg. Ammonium sulphate

Marking Scheme
Subject : Agriculture
Class - XII

Q. No.	Expected Answer/Value Points		Distribution of Marks Total
Q.1	(A) Define commercilization of agriculture.		1
	Give its two objectives		2
	Name two major commercial Crops of India		2
	(B) Write five major soil groups of India		3
	Write two major characteristics of alluvial soils		2
Q.2	Short Notes:		
	(i) Soil Tilth		2
	(ii) Black cotton soils.		2
	(iii) Two green Manuring Crops.		2
	(iv) Cultural Methods of weed control		2
	(v) Raising of fertilizer use efficiency.		2
Q.3	(A) Fill in the blanks :		
	(a) Trifolium - alexandrinum		1
	(b) Nuts		1
	(c) 20-25 kg Zinc Sulphate/ha		1
	(d) 16 percent P_2O_5		1
	(e) Central Asia		1
	(B) Differenciate between the following:		
	(a) Cereals and Legumes		1
	(b) Soil Texture and soil Structure		1
	(c) Flood irrigation and furrow irrigation		1
	(d) Drilling of seeds and dibbling of seeds		1
	(e) Transplanted Rice and Direct seeded Rice		1
Q.4	**Cultivation of Rice**	**Cultivation of Groundnut**	
	(i) Oryza sativa	Arachis hypogea	1,1
	(ii) South East Asia	Brazil	1,1
	(iii) 80-100 kg/ha (Direct seeding) 20-25 kg/ha (Transplanting)	80-110 kg/ha (Bold seeded) 60-75 kg/ha (small seeded)	1,1
	(iv) Cleaning, drying grading, bagging and labelling	Cleaning, Drying, grading, bagging and labelling	1,1

	(v)	Rice stem borer,		Pod borer	
		Rice blast		Tikka disease	1,1
Q.5	(A)	Match the following:			
	(i)	gladiolus	-	Corm	1
	(ii)	Banana	-	Sucker	1
	(iii)	Roses	-	Budding	1
	(iv)	Marigold	-	Seed	1
	(v)	Cannas	-	Rhizome	1
	(B)	Diffenitiate between the following:			
	(i)	Treesand shrubs			1
	(ii)	Annual and Perennials			1
	(iii)	Cutting and layering			1
	(iv)	Training and Prunning			1
	(v)	Hedge and Edges			1
Q.6		**Cultivation of Cauliflowers**		**Cultivation of gladiolus**	
	(i)	Brassica - aleracea		Gladiolus grandiflorus	1,1
	(ii)	500g to 700g /ha		1,50,000 corms	1,1
	(iii)	Processing for Market		Processing for Market	1,1
	(iv)	Manuring schedule		Manuring Schedule	1,1
	(v)	one major insect and disease		one major insect and disease	1,1
Q.7		**Cultivation of Mango**		**Cultivation**	
	(i)	Mangifera-indica		Psidium - guajava	1,1
	(ii)	Inarching, Vinear - grafting		Inarching, Air layering	1,1
	(iii)	Dashari, Langra or any two varieties		Allahabad safeda, chitlidar or any two varieties	1,1
	(iv)	Mango hoppers, Mango Malformation		Guava wilt fruit fly	1,1
	(v)	In the month fo June 100-150 kg/fym 8-10 kg N 2 kg P 1 kg K		100-150 kg leaf mould 3 kg ground nut cake 2 kg Ammonium sulphate	1,1

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