

**GANGA INTERNATIONAL SCHOOL**  
**HOLIDAY HOMEWORK**  
**CLASS – XII (HUMANITIES)**

**ENGLISH**

The students are suggested to regularize their study schedule during holidays, by allocating fixed time to every subject, completing 3 topics every day will let you enjoy the vacation without any stress. The holiday homework is to be submitted on the first day. Absolutely no extension will be given for submitting the home work. **HOLIDAY HOME WORK IS TO BE DONE IN A SEPARATE NOTE BOOK**

1. Read the novel 'Invisible Man', Make notes on each chapter using abbreviations.
2. Make a mind map of the novel by writing the chapter number, title and four main points on white sheet with bright sketch pens. It will help you to memorize the novel easily for the oral test/quiz.
3. Watch the following movies:
  - My Fair Lady
  - Sound of Music
  - Gravity and Theory of Everything
  - Evans Almighty
  - Life of Pie
  - Despicable Me.

Write a critical appreciation mentioning the moral of any two movies.

4. Cut and paste five Display Advertisements.
5. Cut and paste five Posters on Social issues.
6. Read the newspaper daily and cut and paste any five positive and negative reports and write them down in your notebook.
7. Read 'Wings of Fire' and in 200 hundred words write summary of it.
8. Being in a crucial year of your life, it becomes imperative for you to make a roadmap of the career you would like to pursue. Make a flow chart of highlighting the names of colleges/institutions offering the courses of your interest. Percentage required for admission. Future prospects and other relevant information.
9. Make a chart on the poems of the following poets.  
Roll No. : 1-10- Robert Frost  
Roll No. : 11-20 -William Wordsworth  
Roll No. : 21-30- P B Shelly  
Roll No. : 31- 40- S T Coleridge
10. Make working model on any topic of your choice from grammar.
11. Write a biography in 200-250 words on any writer from your text books.
12. Follow the new innovations and achievements by the youngsters trending on social medial.
13. Find the story of 'Forest man of India write it in your own words.
14. Write a speech on the degrading moral situation of the present form of society.
15. "Animals in the zoos" – How far do you support this? Write a speech on this.
16. "Newspapers and Electronics media work as the face of different political parties". Write a Speech either in for or against the topic.
17. Write a speech on the 5 things you want to change about your country.
18. Write a speech on the dire necessity of the change in present politics in India.

19. Write a character sketch of Mrs Hall, give examples from the text to illustrate that she is a mercenary.
20. Write a character sketch of Griffin, explaining whether he is a genius or a mad man.
21. Write a character sketch of Marvel, how does he prove to be smarter than anyone else, illustrate.
22. Kemp is an illustration of science with morality, explain.
23. Collect 20 inspiring quotations by great thinkers on success, aims humility, honesty, importance of reading, importance of education and importance of parents, with the name of the source, your name and admission no. and date of birth. These will be published in Akashganga.
24. Collect five inspiring short stories with moral lesson for publication in the school magazine.
25. Write/ collect inspiring poems on every day themes.

### **HISTORY**

1. Discuss the functions that may have been performed by the rulers in Harappan society.
2. What do you know about the citadels in the Harappan towns?
3. Would you agree that the drainage system in Harappan cities indicated town planning? Give reasons for your answer.
4. Discuss the term, places and times of Harappan culture.
5. Discuss the developments made into the field of craft industry during the Harappan period.
6. Write about the Dhamma of Ashoka in details.
7. Give brief information about trade beyond sub-continent from 6<sup>th</sup> century B.C.E to 6<sup>th</sup> century CE.
8. Explain how Kharosthi was deciphered and by whom?
9. Who was Varahamira? What was his contribution to the science of astronomy?
10. Discuss the notion of kingship that developed in the Post – Mauryan period.
11. Examine the work of the research scholars of the Bhandarkar Oriental Research Institute.
12. What is the influence of Mahabharata on the Indian society?
13. What is the differences between Kula and Jati? What is Vamsha?
14. What is social classification based on caste? What were Shrenis or guilds?
15. Explain why we call Mahabharata a ‘Dynamic Text’.
16. List any two differences between Mahayana and Hinayana.
17. Which things are included in Eight Fold Path of Buddhism?
18. Why do you think women and men joined the sangha?
19. What were the three jewels of Jainism?
20. Choose favorite character or king from history and write a life sketch about his or her achievements.
21. Visit any museum near your place and prepare a report about any 10 items which you think was important there, describing their date, materials used, where they were found etc.
22. Make a scrap book on “how religion changed architectural style of monuments”. Also explain about kings, their official religion and practices.
23. Make a collage on “Victory monuments of India”.
24. Choose any presidency town of your choice from colonial period (India) and write a report on how they are different from other cities. (For an example: Mumbai, Calcutta, Shimla, Mount Abu, etc.)
25. Prepare contents for your project(any 1)
  - a. Harappa civilization
  - b. 1857 Revolt
  - c. Mahabharata
  - d. Imperial Capital :Vijaynagara

- e. Colonial city(Bombay/ Madras/Calcutta, Shimla/Mount Abu)]
- f. Partition of India
- g. Bhakti Movement
- h. Sufi Movement
- i. Travelers account ( Ibn Battuta /Al-Biruni / Bernier)

## POLITICAL SCIENCE

### READING TASK -

1. Read newspapers especially the Editorial page everyday.
2. Revise chapter 1 – 3 (Book : Indian politics).
3. Revise chapter 1-2 (Book: contemporary world).
4. Collect newspaper cuttings relevant to your syllabus.
5. Read the novel ,The Alchemis,.

### WRITING TASK –

1. What were the challenges before India at the time of independence?
2. Who was Potti Sriramulu?
3. What was the SRC? Who were its members and when did it come into existence?
4. On the map of India, mark:- 1.Junagadh 2. Manipur 3. Hyderabad 4. Mysore
5. What were the main concerns/ challenges of partition?
6. Name the parent states and year of formation for 1. Nagaland 2. Gujarat 3. Arunachal Pradesh  
4. Jharkhand.
7. Read the following passage and answer the questions below:  
—In the history of nation-building only the Soviet experiment bears comparison with the Indian. There too, a sense of unity had to be forged between many diverse ethnic groups, religious, linguistic communities and social classes. The scale – geographic as well as demographic was comparably massive. The raw material the state had to work with was equally unpropitious: people divided by faith and driven by debt and disease. || — RAMACHANDRA GUHA
- (a)List the commonalities that the author mentions between India and Soviet Union and give one example for each of these from India.
- (b) The author does not talk about dissimilarities between the two Experiments. Can you mention dissimilarity?
- (c) In retrospect which of these two experiment worked better.
- (d)What has India in her foreign relations followed from the Soviet Union? How have their relations developed in the last decade?
- 8.Who founded the BJS? Was it a powerful force in Indian politics?
9. Was Opposition needed in the years after independence?
10. Describe the nature of Party system in India between 1947-67.
11. Who was Sukumar Sen?
12. Who was Shyama Prasad Mukherjee?
13. Did the prevalence of a one party dominant system affect adversely the democratic nature of Indian politics? Give reasons for your answer.
14. Bring out three differences each between :-  
(i) Socialist parties and the Communist party and;  
(ii) Bharatiya Jana Sangh and Swatantra Party.
15. Which country inspired India towards the concept of planning?
16. What was the Bombay Plan?
17. State 2 advantages of planning.
18. What is a plan holiday ? When did India go through this phase?
19. What were the key thrust in the first 5 year plan?
20. Write a short note on the 2nd five year plan.

21. Explain the food crisis in Bihar.
22. What were the early initiatives of planning?
23. Point out the two major controversies in planning.
24. Discuss the impact of planning on a country like India.
25. Discuss the significant features of the first plan and the second plan. How were they different?

## **ECONOMICS**

Introduction and Central Problems of an Economy

### **QUESTION SET –I**

Q1. Define the following concepts:

- i. Micro Economics
- ii. Macro Economics
- iii. Positive Economics
- iv. Normative Economics
- v. Economic Problems
- vi. Market Economy
- vii. Centrally Planned Economy
- viii. Production Possibility Curve
- ix. Opportunity Cost
- x. Marginal Opportunity Cost

### **QUESTION SET-II**

Q2. Defend or refute the following statements. Write 'Yes or 'No with reason.

- i. Increase in labour productivity shifts PPC to right.
- ii. PPC is also known as transformation curve.
- iii. An economy always produces on PP curve but not inside it.
- iv. PPC shifts rightward when economy achieves growth of resources.
- v. Slope of PP curve indicates the marginal rate of transformation
- vi. Only planned economies face the central problems, not the free economies.
- vii. In a planned economy all central problems are solved by price mechanism.
- viii. Massive unemployment shifts the PPC to the left.
- ix. PPC shows attainable combinations of output.
- x. PP curve is convex to the origin.
- xi. Any point below the PP curve shows the inefficient utilization of resources.
- xii. Marginal rate of transformation goes on increasing.

### **QUESTION SET-III**

Q3. Write your comment on each of the following statement.

- i. Macro economics is concerned with the determination of total output, total employment and general price level.
- ii. PP curve can shift as well as rotate.
- iii. Scarcity and choice are inseparable.
- iv. The problems of 'How to Produce' is basically related to the distribution of resources.
- v. All positive statements are capable of empirical verification.
- vi. Indian economy is the mixed economy.
- vii. PPC slopes downward from left to right because an economy cannot increase the production of one good with production of another good.
- viii. Each point of PPC shows the bundles of two goods that an economy can produce with the optimum use of resources and technology.
- ix. By increasing our resources we can solve our central problems once for all.
- x. Economics is a social science not a natural science.
- xi. If resources are not efficiently utilized, we are outside the PP curve
- xii. Choice between consumer goods and capital goods refer to the problem of how to produce.

#### **QUESTIONS SET-IV**

Q4. Draw a PP curve with the help of imaginary data and show the following situations

- i. Fullest utilization of resources
- ii. Under utilization of resources
- iii. Growth of resources

Q5. Why MRT goes on increasing when we move along the PP curve?

Consumer' Equilibrium

Questions set –I

Q6. Define the following Concepts-

- i. Consumer's Equilibrium
- ii. Utility
- iii. Marginal Utility
- iv. Cardinal Approach
- v. Ordinal Approach
- vi. Budget line
- vii. Indifference curve
- viii. Indifference set

#### **QUESTION SET-2**

Q7. Defend or refute the following statements giving reasons.

- i. Indifference curve is diagrammatic presentation of Indifference set.

- ii. Indifference map refers to a set of indifference curves.
- iii. Budget line shows non attainable combinations of two goods
- iv. Indifference curve is based on marginal rate of transformation.
- v. Budget line shifts rightward when either the prices of two goods fall or the income of the consumer rises.
- vi. Total utility starts declining when marginal utility becomes negative.
- vii. According to the law of DMU, intensity of desire for a commodity goes on falling when more units of it are consumed by the consumer continuously at a given point of time.
- viii. If IC is convex to the origin MRS should be diminishing.
- ix. Consumer reaches in the state of equilibrium at that level of consumption at which the marginal utility obtained from the last unit of commodity is exactly equal to marginal utility of money sacrificed.

### QUESTIONS SET-III

Q7. Answer the following question in sixty words.

- i. What is MRS?
- ii. Why should MRS diminish?
- iii. What is the condition of consumer's equilibrium if consumer consumes more than one good with his money income?
- iv. Explain the determination of consumer's equilibrium under the indifference curve and budget line approach.
- v. Why is IC convex to the origin?
- vi. Under which situation, budget line (i) shifts (ii) rotates.
- vii. Give any two exceptions of law of diminishing marginal utility.
- viii. How does a consumer decide as to how much quantity of a commodity he should consume?
- ix. What is equations of budget line? Explain with the help of an example.

Theory of Demand

### QUESTION SET –I

Q8. Define the following concepts

- i. Demand
- ii. Quantity Demanded
- iii. Substitute Goods
- iv. Complimentary Goods
- v. Movement along with demand curve
- vi. Shifting of demand curve
- vii. Extention and Contraction of demand

- viii. Increase and Decrease in demand
- ix. Normal goods
- x. Giffen Goods
- xi. Income effects
- xii. Substitution effects
- xiii. Demand function
- xiv. Demand curve

### QUESTION SET-II

Q9. Defend or refute the following statements giving reasons

- i. Demand for a commodity can exist independent of its price.
- ii. Rise in demand of a commodity due to fall in its price is extension of demand.
- iii. In case of inferior goods law of demand fails.
- iv. All inferior goods may not be Giffen goods but all Giffen goods are always inferior goods.
- v. In case of substitute goods a fall in price of Good X causes a fall in demand of Good Y
- vi. In case of complimentary good a rise in price of Good X causes a rise in demand of Good Y.
- vii. Changes in income causes shift in the demand curve whereas change in price does not.
- viii. In Movement along with demand curve, demand curve either shift rightwards or leftwards from the original demand curve.
- ix. In case of normal good price effect is negative but income effect is positive.
- x. Law of demand states the positive relationship between the price and demand of the commodity.
- xi. In case of inferior good law of demand fails.

### QUESTION SET -III

Complete the following sentences

- i. When price of a commodity increases, demand for the commodity \_\_\_\_\_
- ii. When demand of a commodity increases, the demand curve \_\_\_\_\_
- iii. When demand curve shifts, price of commodity \_\_\_\_\_
- iv. Change in income causes shift in demand curve whereas change in price does not.
- v. In case of movement along with demand curve, demand moves from \_\_\_\_\_  
\_\_\_\_\_
- vi. In case of shifting of demand curve the demand curve \_\_\_\_\_  
\_\_\_\_\_
- vii. In case of Giffen goods price effect is \_\_\_\_\_ and income effect is \_\_\_\_\_

- viii. Law of demand fails in case of (i)\_\_\_\_\_ (ii)\_\_\_\_\_ (iii)\_\_\_\_\_
- ix. When price of Coke rises the demand for Pepsi\_\_\_\_\_
- x. When the price of car rises the demand of petrol\_\_\_\_\_

#### Charts and Projects

- Make two informative charts on any topics related to Economics to be displayed in your - Class.
- Using various internet sites, make a project on various saving and investment options in India.
- Make a project on the Online functioning of National Stock Exchange.

OR

#### Make a project on any one

- E- Commerce Company engaged in online retail business.
- Make a power point presentation on Bombay Stock Exchange.

### MATHEMATICS

1. If  $A = \begin{pmatrix} 3 & -5 \\ -4 & 2 \end{pmatrix}$  Show that  $A^2 - 5A - 14I = 0$  and hence find  $A^{-1}$ .

2. If  $A = \begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}$ ,  $B = \begin{bmatrix} 5 & 7 \\ 2 & 4 \end{bmatrix}$ ,  $C = \begin{bmatrix} 2 & 5 \\ 3 & 8 \end{bmatrix}$  Find a matrix D such that  $CD - AB = 0$ .

3. If  $A = \begin{bmatrix} 3 & -2 \\ 4 & -2 \end{bmatrix}$ , find k so that.  $A^{-1} = kA - 2I$

4. Find X and Y if.  $3X - Y = \begin{bmatrix} 1 & 1 \\ -1 & 1 \end{bmatrix}$  and  $X - 3Y = \begin{bmatrix} 0 & -1 \\ 1 & -1 \end{bmatrix}$

5. Find B if  $\begin{bmatrix} 2 & 5 \\ -3 & 7 \end{bmatrix} B = \begin{bmatrix} 17 & -1 \\ 47 & -13 \end{bmatrix}$

6. If  $A = \begin{bmatrix} 3 & 1 \\ 7 & 5 \end{bmatrix}$ , find a and b such that  $A^2 + aI = bA$ , where I is unit matrix of order 2.

7. Express  $A = \begin{bmatrix} 6 & 1 \\ 3 & 4 \end{bmatrix}$  as a sum of a symmetric and a skew – symmetric matrix.

8. If  $A = \begin{bmatrix} 1 & 1 & 1 \\ 1 & 2 & -3 \\ 2 & -1 & 3 \end{bmatrix}$  find  $A^{-1}$  and use it solve the system of equations:

$$x + y + 2z = 0$$

$$x + 2y - z = 9$$

$$x - 3y + 3z = -14$$

9. If  $A = \begin{bmatrix} 2 & -1 & 1 \\ -1 & 2 & -1 \\ 1 & -1 & 2 \end{bmatrix}$  and  $B = \begin{bmatrix} 3 & 1 & -1 \\ 1 & 3 & 1 \\ -1 & 1 & 3 \end{bmatrix}$  find the product  $AB$  and use this result to solve the

$$2x - y + z = -1$$

$$-x + 2y - z = 4$$

following system of equations:  $x - y + 2z = -3$

10. If  $A = \begin{pmatrix} 3 & 1 \\ -1 & 2 \end{pmatrix}$ , show that  $A^2 - 5A + 7I = 0$

11. If  $A = \begin{pmatrix} \cos \alpha & \sin \alpha \\ -\sin \alpha & \cos \alpha \end{pmatrix}$ , then verify that  $A \cdot A' = I$ .

12. Without expanding the determinant

$$\begin{vmatrix} a & b & c \\ b & c & a \\ c & a & b \end{vmatrix}$$

(i) show that  $a+b+c$  is a factor of the determinant

(ii) prove that  $\begin{vmatrix} x+y & x & x \\ 5x+4y & 4x & 2x \\ 10x+8y & 8x & 3x \end{vmatrix} = x^3$

(iii) prove that  $\begin{vmatrix} 1/a & a^2 & bc \\ 1/b & b^2 & ca \\ 1/c & c^2 & ab \end{vmatrix} = 0$

(iv) prove that  $\begin{vmatrix} b+c & c+a & a+b \\ q+r & r+p & p+q \\ y+z & z+x & x+y \end{vmatrix} = 2 \begin{vmatrix} a & b & c \\ p & q & r \\ x & y & z \end{vmatrix}$

13. If  $A = \begin{pmatrix} 1 \\ -5 \\ 7 \end{pmatrix}$  and  $B = (3, 1-2)$ , verify that  $(AB)' = B'A'$ .

14. Using determinants, find the area of the triangle whose vertices are (-2,4), (2,-6) and (5,4). Are the given points collinear?

15.  $A = \begin{pmatrix} 1 & -3 & 2 \\ 2 & 0 & 2 \end{pmatrix}$  and  $B = \begin{pmatrix} 2 & -1 & -1 \\ 0 & 1 & -1 \end{pmatrix}$ , find a matrix C such that  $A + B + C$  is a zero matrix.

16. Construct a 2 X 3 matrix whose elements in the  $i$ th row and  $j$ th column are given by

(i)  $\frac{3i-j}{2}$  (ii)  $\frac{2i+3j}{2}$  (iii)  $\frac{(i-2j)^2}{2}$

$$A = \begin{pmatrix} 2 & 3 \\ 1 & 2 \end{pmatrix}$$

17. If  $f(x) = x^2 - 4x + 1$ , find  $f(A)$ , when

$$A = \begin{pmatrix} -1 & 2 \\ 3 & 4 \end{pmatrix}, \text{ and } B = \begin{pmatrix} 3 & -1 \\ 1 & 5 \end{pmatrix}$$

18. Find a matrix X such that  $2A + B + X = 0$ , where

19. Using properties of determinants, show that:

(i)  $\begin{vmatrix} a+x & y & z \\ x & a+y & z \\ x & y & a+z \end{vmatrix} = a^2(a+x+y+z)$

(ii)  $\begin{vmatrix} 1 & a & bc \\ 1 & b & ca \\ 1 & c & ab \end{vmatrix} = 0$

(iii)  $\begin{vmatrix} x+4 & x & x \\ x & x+4 & x \\ x & x & x+4 \end{vmatrix} = 16(3x+4)$

(iv)  $\begin{vmatrix} 1 & x & x^3 \\ 1 & y & y^3 \\ 1 & z & z^3 \end{vmatrix} = (x-y)(y-z)(z-x)(x+y+z)$

(v)  $\begin{vmatrix} a+b+c & c & -b \\ -c & b+c+a & -a \\ -b & a & c+a+b \end{vmatrix} = 2(a+b)(b+c)(c+a)$

(vi) Prove that  $\begin{vmatrix} 1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c \end{vmatrix} = abc(a+1/b+1/c)$

(vii)  $\begin{vmatrix} b+c & c+a & a+b \\ c+a & a+b & b+c \\ a+b & b+c & c+a \end{vmatrix} = 2(a+b+c)(ab+bc+ca-a^2-b^2-c^2)$

20. Solve the following system of equations:

i  $3x + 4y + 7z = 14, 2x - y + 3z = 4, x + 2y - 3z = 0$

ii.  $2x - z = 3, 5x + y = 7, y + 3z = -1$

iii.  $x + 2y - 3z = 6, 3x + 2y - 2z = 3, 2x - y + z = 2.$

iv.  $x + y + z = 1, x - 2y + 3z = 2, x - 3y + 5z = 3$

v.  $x - y + z = 3, 2x + y - z = 2, -x - 2y + 2z = -1.$

vi.  $x + y + z = 6$ ,  $x + 2y + 3z = 14$ ,  $x + 4y + 7z = 30$

vii.  $x + 2y - 3z = -4$ ,  $2x + 3y + 2z = 2$ ,  $3x - 3y - 4z = 11$

viii.  $5x + 3y + z = 16$ ,  $2x + y + 3z = 19$ ,  $x + 2y + 4z = 25$

ix.  $2x + 6y = 2$ ,  $3x - z = -8$ ,  $2x - y + z + 3 = 0$ .

x.  $2/x + 3/y + 10/z = 4$ ,  $4/x - 6/y + 5/z = 1$ ,  $6/x + 9/y - 20/z = 2$

$$A^{-1} \text{ if } A = \begin{pmatrix} 1 & 2 & 5 \\ 1 & -1 & -1 \\ 2 & 3 & -1 \end{pmatrix}$$

21. Find Hence, find the following system of equations:  $x + 2y + 5z = 10$ ,  $x - y - z + 2 = 0$ ,  $2x + 3y - z + 11 = 0$ .

22. If  $A = \begin{pmatrix} 3 & 2 \\ 1 & 1 \end{pmatrix}$ , find the values of a and b such that  $A^2 + Aa + b = 0$ . hence find  $A^{-1}$ .

23. If  $\begin{bmatrix} -1 & 3 & 4 \\ 5 & -1 & 2 \end{bmatrix}$  is additive inverse of  $\begin{bmatrix} 2x & -3 & y \\ x + t & -z & 2z \end{bmatrix}$ . Find x, y, z and t

24. Find value of x, (i) If matrix A is not invertible.  $A = \begin{vmatrix} 4 & -3 & 1 \\ -6 & 7 & -4 \\ 1 & -2 & x \end{vmatrix}$

(ii)  $\begin{bmatrix} 0 & x+2 & 2-x \\ 1-2x & 0 & 2x-1 \\ 3x-8 & x-8 & 0 \end{bmatrix}$  is a skew symmetric.

25. Classify the following system of equations as consistent or inconsistent. If consistent solve it.  
 $x - y + 3z = 6$ ,  $x + 3y - 3z = -4$  and  $5x + 3y + 3z = 10$

NOTE:

➤ Make notes of formulae of Trigonometry, Conic Sections, Straight Lines, Permutation and Combinations, Three Dimensional Geometry, Limits and Derivatives on separate sheets.

➤ To revise concepts learnt in previous classes and to be used in XII

(i) Find the image of the point (3,8) with respect to the line  $x + 3y = 7$  assuming the line to be plane mirror.

(ii) Write the equation of line passing through (5,4) and parallel to the line  $y = x + 1$ .

(iii)

rove that  $\cos^2 x + \cos^2 (x + \pi/3) + \cos^2 (x - \pi/3) = 3/2$

(iv) Find the general solution of the equation  $\sec^2 2x = 1 - \tan 2x$

(v) Solve the following system of inequalities graphically:

$$3x + 2y < 60; \quad y \geq 2x; \quad x < 15; \quad y > 0 \text{ and } x > 0$$

(vi) Show that  $\frac{\sin x - \sin 3x}{\sin^2 x - \cos^2 x} = 2 \sin x$

(vii) Find the domain and range of the function  $f(x) = [x]$  (Greatest Integer function). Also draw its graph.

(viii) Find the probability that when a hand of 6 cards is drawn from a well shuffled deck of 52 cards, it contains (i) atleast 3 kings (ii) all kings.

(ix)

P

rove that:  $\cos 20^\circ \cos 40^\circ \cos 80^\circ = 1/8$

(x) Calculate the mean ,variance and standard deviation for the following data:

Class	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	3	7	12	15	8	3	2

(xi) Suppose  $f(x) = \begin{cases} a + bx, & x < 1 \\ 4, & x = 1 \\ b - ax, & x > 1 \end{cases}$  and if  $\lim_{x \rightarrow 1} f(x) = f(1)$

What are the possible values of a and b?

(xii) Evaluate  $\lim_{x \rightarrow 1} \frac{x^{15}-1}{x^{10}-1}$ .

(xiii) Find the derivative of  $\tan x$  using first principle.

(xiv) Find the derivative of (i)  $\frac{x^5 - \cos x}{\sin x}$  (ii)  $(2 - 5x) \sin^n x$

## INFORMATICS PRACTICES

### Write answers in your fair copy:-

- For your final board project, finalize topic and try to do complete case study. Try to collect all the information regarding your project, make data flow diagrams, screen flow diagram, finalize your data file structure, and finalize functions, validations and bring all such things in a File.
- Prepare a 3 D chart/Model on any one topic from the following list:
  - Different Networking Topologies
  - Different Transmission Media
  - Different great inventions in Computer field
  - Famous IT personalities
  - Famous IT companies and their details
  - Few popular Computer/Mobile operating systems
  - Detail explanation of any free software
  - Future trends in IT Industry
- Compare radio waves and micro waves.
- Write down any two differences between HUB and SWITCH.
- Explain the following protocols:-
  - i) TCP/IP                      ii) SMTP                      iii) PPP                      iv) FTP
  - v) SQL                          vi) OSS
- What is the role of repeater in networking?
- What do you mean by gateway?
- Give atleast two differences between MAC address and IP address.
- Explain the concept of Domain Name.
- Explain the use of firewall in networking.
- Write down the role of bridge in networking.
- Expand the term modem and also explain its use in networking.
- Name two encodings that are used for Indian language computing.
- Name any four Indian scripts included in Unicode.
- What do you mean by open standards?
- Write down the name of any three:
  - Open Source software.

- Freeware software.
- Shareware software.

17. Explain the term proprietary software.

18. What is Cyber Law?

19. Anjali is a programmer at MagicBricks. 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 laborers are paid extra at the rate of Rs. 50/- per day.

- i. User must be able to select only one of the two radio buttons (Male and Female) at a time.
- ii. Write code to calculate and display the Total wages in the corresponding label when the “Calculate Wages” button is clicked. Here total wages= no. of days worked \*(wages+extra).
- iii. Write code to Clear all the text fields for Clear button and exit the application when clicks on STOP button.

20. Globus 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 given as per mode of payments. The details are 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 (named txtDisc) and Net Amount (named txtNetAmt) uneditable.
- 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 NetAmount button (named btnCalcNetAmt) should also be enabled.
  - b) When “Calculate Net Amount” button is clicked the net amount should be calculated and it should be displayed in the net amount textfield.
  - c) When STOP button is clicked then application is closed.

21. In a table ‘Employee’, a column ‘Occupation’ contains many duplicate values. Which keyword would you use if you wish to list only different values.

22. Charvi wants to delete the records where the “FirstName” is “Rama” in ‘Emp’ table. She has entered the following SQL statement. An error is being displayed. Rewrite the correct statement..

23. Consider the Table “Infant” shown below:

**Table: Infant**

ItemCode	Item	DatePurchase	UnitPrice	Discount
101	Frock	2016-01-23	700	10
102	Cot	2015-09-23	5000	25
103	Soft Toy	2016-06-17	800	10
104	Baby Socks	2014-10-16	100	7
105	Baby Suit	2015-09-20	500	5

**Note: Discount column stores discount %**

- i. To display the details about the Cot.
- ii. To list the names of items and their unit price that have price less than 800 and discount more than 5%.
- iii. To list the names of items and their date of purchase that were purchased after 31st december,2015.

- iv. To display the number of items that have more than 10% discount.
- v. To display Item code and unit price in decreasing order of unit price.
- vi. To increase the unit price of each item by 10% of their unit price.
- vii. To display the highest unit price of items.
- viii. To display the names of items that have 'Baby' anywhere in their item names.
- ix. Select MID(Item,1,2) From Infant;
- x. Select Avg(UnitPrice) From Infant Where DatePurchase>'2015-01-01';

24. Consider the tables given below and answer the questions that follow:

**Table: Workshop**

WorkshopId	Title	NumSpeakers	MeantFor	Fee
551	Time Management	3	Senior Manager	7000
553	App Development	1	Computer Programmer	9000
554	Planning	2	Senior Manager	8000
556	Marketing Strategies	2	Junior Manager	9000

**Table: Participant**

ParticipantId	Name	WorkshopId
100	Prabhu Shankar	551
101	Dev Sen	554
102	Fauzia Khan	551
103	Tom Winters	553

Write commands in SQL for I to iii given below:

- i. To display names of Participants along with workshop titles for only those workshops that have more than 2 speakers.
- ii. To display ParticipantId, Participant's name, WorkshopId for workshops meant for Senior Managers and Junior Managers.
- iii. To display WorkshopId, Title, ParticipantId for only those workshops that have fees in the range of 5000 to 8000.

25. Write SQL query to create a table 'Event' with the following structure:

Field	Type	Constraint
EventId	Varchar(50)	Primary Key
EventName	Varchar(30)	Not Null
Location	Varchar(50)	
ClientId	Integer	
EventDate	Date	

# **PHYSICAL EDUCATION**

## **UNIT 3: YOGA AND LIFE STYLE**

1. Elements of yoga.
2. Benefits of yoga.
3. Explain various types of yoga asana.
4. Treatment for various types of diseases by yoga.
5. Benefits of different asana.

## **UNIT 4: PHYSICAL EDUCATION & SPORTS FOR DIFFERENTLY ABLED**

6. Concept of disabilities.
7. Explain types of disabilities.
8. Types of disorder, its causes and nature.
9. Advantage of physical activities for children.
10. Explain about ADHD, SPD, ASD, ODD, OCD.

## **UNIT 5: CHILDREN & SPORTS**

11. Define motor development. What are the factors affecting motor development.
12. How is exercise beneficial for the development of children?
13. Why are physical activities so important in life?
14. Write about the safety concerns of food supplements for children and teen.
15. What are the advantages and disadvantages of weight training?

## **COMMERCIAL ARTS**

Draw and color 10 posters.