

**ENGLISH**

**General Instructions:**

1. Read the newspaper daily with special emphasis on school based reports, notices, posters and articles. Pay attention to the language used.
2. Attempt the following questions in English Registers.
3. Date of submission is **18<sup>th</sup> June, 2024.**

**SECTION A- WRITING SKILLS**

**Q. Read the following passages and the answer the questions as directed:**

**Passage 1: The Art of Reading Right**

1. Reading Comprehension (RC, as it is normally called) is the most peculiar section in almost all scholastic, entrance and employment tests. The skills in RC make a lot of difference to one's chances of good grades/selection.
2. Most students find it difficult to tackle topics that are diverse from the field they are in or they are comfortable with. So one needs to develop a taste for even the most obscure and boring topic on this planet. For success in RC one should be able to understand. And even with an average speed one can succeed if one implements the strategies.
3. Broadly speaking, RC passages can be classified in a few categories. Fact based RC is the simplest form of RC. These types of passages have lot of information in the form of names, numbers etc. In this type of passages one should read very fast.
4. Don't try to memorize any facts, numbers or names etc. In fact there is no need to even remember them. Just make yourself familiar with the structure of the passage. Just see in which paragraph author is talking about what. Mark it. Then when you go to the questions, identify in which paragraph information regarding that question is mentioned. Go to that paragraph, read the numbers, names etc. and mark the answer.
5. Inference based RC is the toughest form of RC. Here the passage is fairly tough to understand. This includes passages on topics like Religion, Spirituality, Philosophy, etc. Most of the students will be comfortable attempting these passages at least in RC. The reading speed is fairly slow in this type of passages. The way to master this type of passages is to read them again and again while practising.
6. Topic based RC includes passages on any particular topic like economics, astrology, medical science, etc. Generally what makes -these passages tough is usage of technical terms. If a topic is new to us then presence of technical term scares us even if they are defined in the passage. For success in this type of passages we need to have a fan-understanding of the definition of the term if it is defined in the passage. Read that definition twice if you need to. But don't worry about technical terms if they are not defined in the passage. Assume them to be non-existent and proceed. Key principle in these passages is that don't go to the next line unless the previous line is clear.
7. Reading passage first and then questions is the most popular strategy for RC. While answering the question you may come back to the passage to find answer as you have just read the passage initially and not crammed it. But you should not come back for each and

every question. If you come back for majority of questions then you haven't read the passage properly. The key to success for this strategy is that you should understand the passage very well. We will suggest students to follow this technique from the beginning and work upon this.

8. Reading questions first and then passage is the strategy followed by a few students. They just look at the questions and not options. The objective is that after seeing the questions when you read the passage then you read only that part carefully where the answer is given. The flaw with this is that you will not be able to remember all the questions. Besides this, this strategy fails when there are questions that require understanding of the passage.

**A. Answer the following questions by choosing the most appropriate option:**

1. Most students find Reading Comprehension difficult because.....
  - (a) the language is tough
  - (b) the vocabulary is difficult
  - (c) the style is too involved
  - (d) the topics are unrelated to their interest
2. Fact based RC is the easiest because.....
  - (a) it is written in simple language
  - (b) there are no allusions
  - (c) it contains information
  - (d) it can be memorised easily
3. For answering a question on RC, one should.....
  - (a) memorise the facts, figures, etc.
  - (b) mark what the author is talking about in the para
  - (c) mark the essential details of the passage
  - (d) remember the names, numbers, etc.
4. Topic based RC is tough as.....
  - (a) it contains technical terms
  - (b) it is based on different topics
  - (c) it demands instant understanding
  - (d) one can't read them fast enough
5. Careful reading of the passage is essential for.....
  - (a) answering difficult questions
  - (b) saving time and effort
  - (c) proper understanding and answering correctly
  - (d) selective identification of relevant parts
6. The word 'diverse' in para 2 means.....
  - (a) similar
  - (b) same
  - (c) variety
  - (d) different

**B. Answer the following questions in brief:**

7. What should one do for finding the right answers?

8. Why is topic based R C tough?
9. Which step is considered more essential for finding right answers? Why?
10. What is the most popular strategy for solving Reading Comprehension (RC)?
11. Find the words similar in the meaning from passage.
  - (a) Different (para 2)
  - (b) Accept as true (para 6)

### **Passage 2: Great Indian digital divide**

1. The revolution in information technology (IT), far from helping India to leapfrog to a post-industrial society, threatens to rupture the social fabric by enriching a few at the cost of many.
2. In a very short time and quite unexpectedly, India has risen to considerable eminence in the world of information technology. This year, software products are expected to account for \$ 5.7 billion in exports and will account for a quarter of the growth in the economy, which is expected to grow nearly seven per cent. Within eight years, predicts a recent study by McKinsey & Co. and the National Association of Software & Service Companies (Nasscom), India's annual IT exports could hit \$ 50 billion about 33 per cent of global software exports. Such a surge is expected to generate 2.2 million jobs—and push our growth rate near the double digits that many East Asian Tigers enjoyed before the 1997 crash.
3. For the rapidly growing middle class, which was desperate to make its presence felt but remained mired in the great Indian outback of the global economy and regretfully watched the industrial revolution pass it by, this is the moment they have been waiting for. When countries like Japan and Germany, the objects of Indian admiration, should come knocking on our doors to solicit our talent to invigorate their industry, it is indeed redemption of sorts. And IT is the cause of it all.
4. The big question is, will IT do an encore for India as a nation, and not just for a wafer thin percentage of IT-literate Indians, mostly the poster boys of the IITs?
5. IT has, as yet, failed to touch the lives of the average citizen and India is nowhere close to being a knowledge economy or society. As per the International Data Corporation (IDC), in a survey of 55 countries, India ranks 54th on its Information Society Index.
6. The fact is, it is a straightforward reflection of the deep inequality of our education system which breeds a few 'geniuses' at the cost of the entire nation. A study by former director of the National Centre for Software Technology, R. Narasimhan, points out that nowhere is the digital divide more glaring than in IT education. The report warns that India's 'obsession' with the software industry and its exports orientation is leading to the churning out of unemployable students on one hand and bright whiz-kids on the other. While the latter are lured away by overseas employers, the former remain unemployable. Narasimhan cautions against the 'hype' associated with the phenomenal growth of India's software industry defying rational explanations and built up into a 'mystique of sort' which breeds false hopes.
7. India's software industry is a poor employment generator. In the mid-Nineties, some 20,000 people were actively employed in software export services. In contrast, there were three million registered unemployed graduates in the Nineties. While the 'Narasimhan study doesn't

mention number of jobs lost due to computerisation, one could comfortably add a million to the number.

**A. Answer the following questions by choosing the most appropriate option:**

1. The revolution in IT threatens to break apart the social fabric cause.....
  - (a) the stocks of software companies have risen at BSE
  - (b) it has helped India to rise beyond the industrial society
  - (c) it is enriching a few at the cost of many
  - (d) it has created a gulf between the rural and urban sector
2. Growth in export of Indian software products and national economy have been achieved because of.....
  - (a) global recession
  - (b) liberalised economy
  - (c) public private cooperation
  - (d) eminence of Information Technology
3. It is a time of pride for the middle classes in India because.....
  - (a) developed industrial nations will require Indian software professionals to invigorate their industry
  - (b) they are desperate to make their presence felt
  - (c) they have remained stuck in the mud of global economy
  - (d) they have regretfully watched the industrial revolution pass by them
4. The digital divide is clearly visible in IT revolution because.....
  - (a) it has improved a lot of average Indian citizen
  - (b) it has benefitted only the products of IITs or some IT-literates
  - (c) it has made India a knowledge economy or society
  - (d) non-IT trained students run the IT institutes
5. Narasimhan's report cautions against 'hype' around IT software industry because.....
  - (a) it is rational
  - (b) it breeds false hopes
  - (c) all look for foreign assignments
  - (d) it attracts even the dullards
6. The word 'redemption' in para 3 means.....
  - (a) recoupment
  - (b) recumbent
  - (c) recovery
  - (d) redeeming

**B. Answer the following questions in brief:**

7. Why is the digital divide clearly visible in IT revolution?
8. Why is IT not beneficial for average Indians?

9. What does Narasimhan's report highlight about IT software industry?
10. How is IT revolution lucrative for the middle classes in India?
11. Find the words from the passage which are similar in meaning.
  - (a) Recovery (para 3)
  - (b) Very easily seen (para 6)

**Q3.** It is believed that empowering women is a major step towards empowering a nation. Write an article of about 200 words on the given theme.

**Q4.** You are Aman/Aditi studying in Bharati Public School, Lucknow. The road leading to your school is very congested and full of potholes. Students and parents are often caught in a traffic jam. In spite of several representations, the government has not done anything to improve the condition of the road. Write a letter to the Editor of The Times of India, drawing the attention of the government to this problem.

**Q5.** The Tourism Department (Govt. of Uttarakhand) has launched an ambitious plan to popularise adventure sports and eco-tourism in the state. Draft a poster in not more than 50 words to be displayed at important public places /publication in newspapers.

## SECTION B- GRAMMAR

i. Fill in the blanks using the correct form of the words given in the brackets.

With India set to a)\_\_\_\_\_ (take over/take on/undertake/take up) the presidency of the G20 at the end of this year, the platform of the world's 20 largest economies b)\_\_\_\_\_ (though/although/that/through) riven by Russia's war in Ukraine c)\_\_\_\_\_ (can/shall/should/could) still play a key role in d)\_\_\_\_\_ (finding/finds/found/founded) solutions, as demonstrated during the initial stages of the Covid-19 pandemic. India's commitment to stand e)\_\_\_\_\_ (with/by/on/in) developing nations on issues such as debt, food, energy, security and climate action during its G20 presidency is a welcome assertion.

ii. The following passage has not been edited. There is one error in each line against which a blank has been given. Write the incorrect word and the correction against the correct blank.

Correction	Error
Paper were first made by the Egyptians	_____
From the plant names papyrus. For	_____
the long time, papyrus was used extensively	_____
as writing material before a Chinese	_____
perfected the processes. Demand of paper	_____
growing with the advent of books worldwide.	_____

## SECTION C- LITERATURE

Write each of the following questions in 100-120 words.

1. Explain how does the setting of the story "The Portrait of a Lady" affects the relationship between the grandmother and the author.
2. Discuss the values highlighted in the story "The Portrait of a Lady".

3. "A Photograph" is a dysphoric poem which captures the different moods of the poet. Discuss
4. Human life is short-lived in contrast to nature. Comment on the statement in the light of the poem "A Photograph".
5. Can the act of stealing be ever justified? Give your views in the context of reading of "The Summer of the Beautiful White Horse"

## **GEOGRAPHY**

**Date of submission: 19 June 2024**

A. Prepare a Model or Collage (A3 size) on Impact of climate change on Islands of India- Lakshadweep and Andaman and Nicobar.

Selected students will make Models on topic – Big Bang Theory, Interior of the Earth and Movement of Indian Plate.

### General Instructions:

- It should be a handwritten project to be made on A4 size sheets and submit in a folder.
- The Project work should be of 8-10 pages.
- It should be well-researched, pictorial and informative.
- It should contain title page, acknowledgement, data analysis, conclusion and bibliography.

Complete Geography practical file from:

1. Chapter 1 Introduction to Maps
2. Chapter 2 Map Scale
3. Chapter 3 Latitude, Longitude and Time from the book Practical work in Geography (Part 1).
  - Use A4 size interleaved practical file for the same.

B. Complete the map activity and diagrams given below in the homework register only.

### **Book - India: Physical Environment**

#### Chapter 1

- Latitudinal extent of India
- Longitudinal extent of India
- Standard Meridian of India
- Important latitude passing through India (Tropic of Cancer)
- Southern Most Point of mainland of India (Kanya Kumari)

#### Chapter 2 Physical features of India

- Mountains: Karakoram Range, Garo- Khasi- Jaintia hills, Aravalli Range, Vindhyan Range, Satpura Range, Western ghats & Eastern ghats
- Peaks: K2, Kanchenjunga, Nandadevi, Nanga Parvat, Namcha Barwa and Anaimudi
- Passes: Shipkila, Nathula, Palghat, Bhore ghat and Thal ghat
- Plateaus: Malwa, Chhotanagpur, Meghalaya and Deccan Plateau.
- Coastal Plains: Saurashtra, Konkan, North and South Kanara, Malabar, Coromandel and Northern Circars
- Islands: Andaman & Nicobar Islands and Lakshadweep Islands

#### Chapter 3 Major rivers of India

- Rivers: Brahmaputra, Indus, Satluj, Ganga, Yamuna, Chambal, Damodar, Mahanadi, Krishna, Kaveri, Godavari, Narmada, Tapi and Luni

- Lakes: (Identification) Wular, Sambhar, Chilika, Kolleru, Pulicat & Vembanad
- Straits, Bays, Gulfs: Palk Strait, Rann of Kachch, Gulf of Kachch, Gulf of Mannar & Gulf of Khambat

#### Chapter 4

- Area with highest temperature in India
- Area with lowest temperature in India
- Area with highest rainfall in India
- Area with lowest rainfall in India

#### Book- Fundamentals of Physical Geography

Chapter 3-Diagrams-1. Interior of the earth 2. Earthquake shadow zone 3. Volcanic landforms.

Chapter 4-Diagram - Sea Floor Spreading  
map work-

1. Major and Minor plates of the world
2. Distribution of earthquakes and volcanoes

Political Map of all Continents of the world.

- Major Oceans of the world: Indian Ocean, Pacific Ocean, Atlantic Ocean, Arctic Ocean, Southern Ocean
- Major lithospheric plates and Minor lithospheric plates, Ring of fire (Pacific Ocean), Mid-Atlantic Ridge.
- 3. Major Hot Deserts of the world:
  - Mojave Desert- Nevada, US
  - Patagonian Desert- Argentina
  - Sahara- Africa
  - Gobi Desert- Mongolia, Asia
  - Thar desert- India
  - Great Victoria desert- Australia

#### 4. Major Seas

- Black sea • Baltic sea • Caspian Sea • Mediterranean Sea • North Sea • Red sea • Bay of Fundy (Canada)-Famous for the highest tides in the world.

#### 5. Ocean Currents-

- Cold currents • Humboldt c. • California c. • Falkland c. • Canaries c. • West Australian c. • Oyashio c. • Labrador c.
- Warm currents • Alaska c. • Brazilian c. • Aghulas c. • Kuroshio c. • Gulf stream c.

Chapter 5-Diagram- Rock cycle

Chapter 6-Diagram- Mass movement

Chapter 7 - Paste images of the following from the internet-

V shaped Valley, Gorge, Canyon, U shaped Valley, Waterfall, Rapids, River meanders, Oxbow lake, Delta, Estuaries.

#### ASSIGNMENT- (To be done in the Notebook)

- Q.1 Differentiate between Physical geography and Biogeography.
- Q.2 Differentiate between Systematic approach and Regional approach.
- Q.3 On the basis of regional approach, explain different branches of geography.
- Q.4 Explain different branches of geography under Biogeography.



- Q.5 What is the importance of Physical Geography?
- Q.6 Geographers play an important role for a country. How?
- Q.7 List the stages in the evolution of the earth and explain each stage in brief.
- Q.8 Who gave their opinions about the formation of the moon? What did they opine?
- Q.9 Inner planets are terrestrial while outer planets are Jovian. Why?
- Q.10 Explain how did life evolve on the earth?
- Q.11 Explain different phases of evolution of planets.
- Q.12 Explain the earliest theory associated with the origin of the earth
- Q.13 Explain the modern theory associated with evolution of the Universe.
- Q.14 Name different hypothesis associated with the formation of the earth.
- Q.15 What role did carbon dioxide played in the formation of oceans?

### PSYCHOLOGY

**Date of submission: 20 June 2024**

1. An autobiography is story of your life. Your holiday homework is to write an autobiography. You may write it in a conversation or story style. Share your photographs, family pictures etc. Feel free to write about any significant event that you have experienced and what you learnt from it. (use A4 size coloured paper may use coloured pens / sketch pens etc.)
2. Write an essay upon Positive Psychology (300 words).
3. Complete NCERT based question answers of chapter 1.

### POLITICAL SCIENCE

**Submission Date: 21 June, 2024**

1. Read any one national newspaper daily (the Editorial page). Choose any five articles which are relevant and important in the context of current Indian politics. Paste the articles in your notebook and write a paragraph expressing your views about any one issue from the articles.
2. Read and revise the chapters taught in the class and solve the worksheet given below in your notebook.
3. Selected students will make a model on the given topics:
  - a. A Bag of Borrowing: Construct a model showing the provisions and structures adopted from different countries in the making of Indian Constitution.
  - b. Electoral Process: Design a model illustrating the electoral process in India, including the stages such as voter registration, campaigning, voting booths and



the counting process.

- c. Working of a Federal System: Create a 3D model representing the Central government, state government and local government, depicting the flow of power and responsibilities.
4. Prepare a project on the following topic according to your roll number.
  - A. Roll number 1-15: The importance of elections in a democratic country with special reference to Lok Sabha elections (2024) in India – the campaign, political parties and results.
  - B. Roll number 15-25: The making of the Indian Constitution
  - C. Roll number 25-30: Detailed structure, composition and functioning of any one organ of the Indian government – Legislature, Executive or Judiciary.
  - D. Roll number 31-45: One Case-study about violation of any one or all of the values of equality, liberty and social justice.
  - E. Roll number 45-60: Political Impact on Indian Legislation

General Instructions:

- It should be a handwritten project to be made on A4 size sheets and submitted in a folder.
- The Project work should be of 15-20 pages.
- It should be well-researched, pictorial and informative.
- It should contain title page, acknowledgement, analysis, conclusion and bibliography.
- Relevant newspaper clippings, facts and figures should be included.

ASSIGNMENT

Choose the most appropriate option for each of the following -

1. The nature of the Constituent Assembly was:
  - a) Representative
  - b) Authoritarian
  - c) Dictatorship
  - d) None
2. Which provision of the Indian constitution was passed without any debate?
  - a) Parliamentary system
  - b) Powers of Judiciary
  - c) Decentralized system
  - d) Universal Adult Suffrage
3. The Constitution of a country provides the basis for
  - a) Punishment of criminals
  - b) Diplomatic relations with other countries.
  - c) Relationship between citizens
  - d) Governance of the country

Answer the following questions-

4. What is meant by the term 'Constitution'? Explain its need and importance.
5. Discuss the main functions of a Constitution.
6. Do you agree that the Constituent Assembly was a representative body? Give reasons for

your answer.

7. What will happen if the Constitution will not limit the powers of the government?
8. Do you feel the Indian Constitution needs changes? If yes, what changes do you think are required?
9. The Indian Constitution is a blend of rigidity and flexibility. Explain with the help of examples.
10. Discuss the importance of Fundamental Rights and Directive Principles of State Policy in the development of Indian democracy and people's welfare.
11. In your opinion, which fundamental right is the most important and why? Discuss its provisions.
12. Do you think that the Right to Freedom should be restricted in the following situations? Give reasons to support your answer.
  - a) Women protested against the restriction on their entry into the Sabarimala temple.
  - b) Several Sikh leaders have mobilised a crowd to attack police stations demanding a separate state for the Sikh community.
  - c) People have assembled for a peace march after communal riots in the city.
  - d) Hundreds of Adivasis blocked the road demanding that the land taken away from them for construction of a mall be returned to them.
13. Can Fundamental Rights come in conflict with the Directive principles? Explain with suitable examples.
14. Both male and female Indian cricketers play for the country with equal devotion but there is a huge difference in their basic pay scale.
  - a. Which fundamental right is being violated here?
  - b. What are the remedies available?
15. It is the judiciary's responsibility to ensure that effective remedies are provided in case of violation of Fundamental Rights of citizens. Do you think the judiciary is doing its work well? Analyse.

## **ECONOMICS**

**Date of submission: 21<sup>st</sup> June, 2024**

**To be done in Economics Register.**

### **MICROECONOMICS**

**1. Read the given case carefully and answer the following questions based on the same.**

The resources that we value—time, money, labour, tools, land, and raw materials—exist in limited supply. There are simply never enough resources to meet all our needs and desires. This condition is known as scarcity.

At any moment of time, there is a finite number of resources available. Even when the number of resources is very large, it's limited. Because these resources are limited, so are the numbers of goods and services we can produce with them. Combine this with the fact that human wants seem to be virtually infinite, and you can see why scarcity is a problem. When faced with limited resources, we must make choices. Again, economics is the study of how humans make choices under conditions of scarcity. These decisions can be made by individuals, families, businesses, or societies.

- (i) Short supply in relation to demand is called \_\_\_\_\_.
- Abundance
  - Scarcity
  - Both (a) and (b)
  - None of these
- (ii) Scarcity is the mother of all \_\_\_\_\_ problems.
- (iii) Which of the country does not have scarcity of resources?
- America
  - India
  - China
  - None of these
- (iv) Which of the following factors cause economic problem?
- Limited resources
  - Unlimited wants
  - Alternative use of resources
  - All of the above

### Numerical Questions

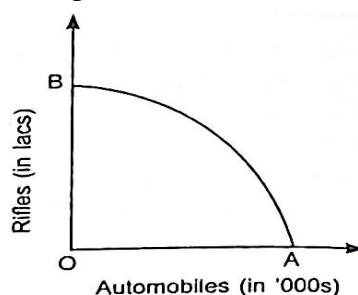
2. A country produces only two goods: green chilli and sugar. Its production possibilities are shown in the following table. Plot the PPC on a graph paper and verify that it is concave to the origin. What is the pattern in the table that gives rise to the concave shape of the PPC?

Possibilities	A	B	C	D	E	F
Sugar	0	1	2	3	4	5
Green Chilli	100	95	85	70	50	25

3. The following is a production possibility table for war goods and civilian goods:

Combinations	A	B	C	D	E
Automobiles (₹ 000s)	0	1	2	3	4
Rifles (lacs)	10	9	7	4	0

- (a) Show these production possibilities through a PPC. What do the points on the curve indicate?
- (b) Label point G inside the curve. What does this point indicate?
- (c) Label point H outside the curve. What does this point indicate?
- (d) What must an economy do to attain the level of production indicated by point H?
4. Given the production possibilities curve for rifles and automobiles:



- a) Suppose improvement occurs in the technology of producing rifles and not in the production of automobiles. Draw the new PPC.
- b) Now, assume that a technological advance occurs in producing automobiles and not in producing rifles. Draw the new PPC.

c) Finally, draw a PPC which reflects technological improvements in the production of both products.

**2. Read the given case carefully and answer the following questions based on the same.** We defined demand as the amount of some product that a consumer is willing and able to purchase at each price. This suggests at least two factors, in addition to price, that affect demand. 'Willingness to purchase' suggests a desire to buy, and it depends on what economists call tastes and preferences. If you neither need nor want something, you won't be willing to buy it. 'Ability to purchase' suggests that income is important. The price of related goods can also affect demand. If you need a new car, for example, the price of a Honda may affect your demand for a Ford. Finally, the size or composition of the population can affect demand. The more children a family has, the greater is their demand for clothing. The more driving-age children a family has, the greater is their demand for car insurance and the less is their demand for diapers and baby formula.

- (i) Which of the following is an element of demand?
  - a) Willingness to purchase
  - b) Ability to purchase at a given price
  - c) Both (i) and (ii)
  - d) None of these
- (ii) 'Willingness to purchase' depends upon (taste and preferences/ income) of the consumer.
- (iii) 'Ability to purchase' depends upon
  - a) taste
  - b) income
  - c) preference
  - d) All of these
- (iv) Which of the following is not the factor that affects demand?
  - a) Price of related goods
  - b) Income of a consumer
  - c) Price of given good
  - d) None of these

### Numerical Questions

2. A person's total utility schedule is given below. Derive his marginal utility schedule

Amount consumed	0	1	2	3	4	5
Total Utility (Units)	0	10	25	38	48	55

3. Complete the following table:

Units Consumed	1	2	3	4	5
Total Utility	25	45	—	70	75
Marginal Utility	25	—	15	—	—

5. A consumer consumes only two goods X and Y. Her money income is ₹24,

and the prices of goods X and Y are ₹ 4 and ₹ 2 respectively. Answer the following questions.

- Can the consumer afford a bundle 4X and 5Y? Explain.
- What will be the  $MRS_{XY}$  when the consumer is in equilibrium? Explain.

6. Complete the following indifference schedule of a consumer consuming bundles of two goods X and Y

Combination	Good X	Good Y	$MRS_{XY}$
A	1	15	—
B	2	—	4 : 1
C	—	8	3 : 1
D	4	6	—
E	5	—	1 : 1

### Activity

**To be done on Chart Paper, Model or Power Point Presentation**

Activity- Plan a game based on real life situations demonstrating Law of Diminishing Marginal Utility and how this law impacts the choices of rational consumers.

### APPLIED MATHEMATICS

**Complete the following assignment in your Mathematics notebook.**

**Date of submission: 22 June 2024**

Q1. State which of the following statements are true and which are false. Justify your answer.

- $35 \in \{x \mid x \text{ has exactly four positive factors}\}$ .
- $128 \in \{y \mid \text{the sum of all the positive factors of } y \text{ is } 2y\}$
- $3 \notin \{x \mid x^4 - 5x^3 + 2x^2 - 112x + 6 = 0\}$

Q2. Given  $L = \{1, 2, 3, 4\}$ ,  $M = \{3, 4, 5, 6\}$  and  $N = \{1, 3, 5\}$ . Verify that  $L - (M \cap N) = (L - M) \cap \bar{N}$

Q3. A, B and C are subsets of Universal Set If  $A = \{2, 4, 6, 8, 12, 20\}$ ,  $B = \{3, 6, 9, 12, 15\}$ ,  $C = \{5, 10, 15, 20\}$  and U is the set of all whole numbers, draw a Venn diagram showing the relation of U, A, B and C.

Q4. Calculate the domain and range of  $f(x) = |2x - 3| - 3$ .

Q5. Two finite sets have m and n elements. The number of subsets of the first set is 112 more than that of the second set. Find the value of m and n.

Q6. Draw the graph of  $f(x) = |x - 2|$ ,  $x \in \mathbb{R}$ . What are the domain and range of  $f(x) = |x - 2|$ .

Q7. Let  $f: x \rightarrow 5x^2 + 2$ ,  $x \in \mathbb{R}$ . Define the function f. Find the image of 3 under f.

Q8. In a town of 10,000 families it was found that 40% families buy newspaper A, 20% families buy newspaper B, 10% families buy newspaper C, 5% families buy A and B, 3% buy B and C and 4% buy A and C. If 2% families buy all the three newspapers find  
(a) The number of families which buy newspaper A only.  
(b) The number of families which buy none of A, B and C.

Q9. In a shop, 380 people buy socks, 150 people buy shoes and 200 people buy belt. If there are total 580 people who bought either socks or shoes or belt and only 30 people bought all the three things? So how many people bought exactly two things.

Q10. Let the function  $f(x) = x^2$  for all  $x \in X$ , where  $X = \{-2, -1, 0, 1, 2, 3\}$ ,  $Y = \{4, 1, 0, 9\}$ . Define  $f: X \rightarrow Y$ . Express the relation  $f$  in roster form. Mention if  $f$  is a function.

### **PHYSICAL EDUCATION**

**Date of submission: 25<sup>th</sup> June 2024**

**I.** To be done in Practical File

- Practical-1: Labelled diagram of 400 m Track & Field with computations.
- Practical-2: Describe Changing Trends in Sports & Games in terms of changes in Playing surface, Wearable gears, Equipment, Technological advancements.
- Practical-3: Labelled diagram of field & equipment of any one IOA recognised Sport/Game of choice.

**II.** Play any sport during summer vacation and note the changes in body (Muscular system) and write in your practical file.

**III.** Visit any sports complex nearby and write about the game specific changes in infrastructure of your specific game in your practical file.

**IV.** Complete the following assignment in your Register

1. Define Physical Education.
2. What are the objectives of Physical Education?
3. How Physical Education develop neuro-muscular coordination?
4. How can Physical Education contribute in moral and character building?
5. How does Physical Education contribute to an individual's mental development?
6. What are advantages of using technology in sports?
7. What are the career options an individual has after completion of professional course in Physical Education?
8. What is Khelo India Programme?
9. What is the need of sports competition in school? Discuss in details.
10. Apart from a professional degree in Physical Education, what other key skills are required for opting for career other than teaching?