M.M.- 100	Time: 2 hrs. 30 mins

General Instructions:

(i)   There are 5 sections in all.

(ii)   Marks allotted to each question are mentioned in the brackets after the question.

(iii)   You should not mention your Name, Roll No. or any sign of identification anywhere on the Answer Booklet, except for the Top Sheet. Violation of this instruction will result in immediate disqualification of the candidate.

(iv)   You should mention your preferred subjects as indicated in the Top Sheet of the Answer Booklet. The same is tentative and not final and will be used for counselling purpose only.

(v)   All questions in all sections are compulsory. There is no internal/external choice.

Section 1   English (20)

Q. 1- Read the following passage and answer the questions that follow: (5)

Optimism is not a deep, complicated philosophy or a school of thought. It is more a matter of our general attitude to life, of always taking a positive and bright view of life. In some persons it is an inborn trait. They are tuned that way by nature and temperament but in most cases it is an acquired or a carefully cultivated and nurtured habit.

So we find that some people always look at the bright side of things while there are some others who always see the bad, dark side of things. To an optimist, every cloud has a silver lining. A pessimist, on the other hand, misses the silver lining and sees only the cloud. Frederick Langbridge sums it up: "Two men look out through the same bars: one sees the mud and one the stars."

One Sunday morning, when William Dean Howells and Mark Twain came out of the church, it started raining heavily, "Do you think it will stop?" asked Howells. "It always has," replied Twain. An optimist hopes for the best. Optimism nurtures two things most: hope and cheerfulness. Alexander regarded hope as the greatest possession of mankind. He held that if you destroy hope you destroy future. Hope strengthens our will to survive calamities, so that we never give way to despair. It helps us count our blessings and hope persistently goads us to go on. It is rightly said that 'an optimist sees an opportunity in every calamity; a pessimist sees a calamity in every opportunity'.

A person who is optimistic, cheerful and full of hope gains easy acceptance everywhere in society and succeeds in maintaining meaningful and lasting relations with others. Most people feel dejected, even down and out, when they do not succeed in achieving their aim. They allow themselves to reach a state of hopelessness. Some even suffer sudden loss of energy and the will to persist. They become victims of a host of negative feelings and thoughts. The loss of self-esteem can be so complete in the case of some; they might even take the extreme step of ending their lives.

An optimist reacts to situations differently. He thinks and acts in a positive manner. Optimism aids his patience, increases his energy and steels his will to see his objective. Optimism is, in fact, an unending source of positive energy. There is nothing negative about it.

Unlike pessimist who gives up when he finds one door locked, the optimist believes in looking for other doors which are wide open. Instead of giving way to despair, he tries to find alternatives.

A pessimist is a perpetual loser; an optimist is a winner despite an occasional failure. Unlike the pessimist, an optimist does not allow himself or herself to sink into a state of morbidity or depression. Owing to a positive frame of mind, an optimist is never without solace and never suffers from poverty of the spirit.

Answer the following questions in your own words: (5×1=5)

(i)   What do you understand by optimism?
(ii)   Mention two points of difference the way an optimist and a pessimist looks at things.
(iii) How does an optimist look at failure?
(iv)   Find words in the passage which have similar meaning to the following:
       Disaster (paragraph 3)
       Hardened (paragraph 5)

Q.2- Write an article on any one of the following in 100-120 words: (4)

In monsoon season, outbreak of malaria and dengue is quite common. Write an article on the topic "The Killer Disease – 'Dengue'.

OR

In today's age of stress and anxiety, the children need to understand the importance of sleep, meditation and yoga over social networking and the use of the cell phone. Write an article on the topic: 'Concentration and Composure: the need of the hour'.

Q.3- Write a letter on any one of the following in 100-120 words (Please do not write your real name in the answer sheet; the same will lead to immediate disqualification): (4)

Though there is a movement like 'Sarvashiksha Abhiyan' and enrolling of underprivileged children in schools, there are still many children who do not go to school, rather have never seen a school, which is indeed disturbing. You decide to write a letter to the editor of a news channel expressing your views and the steps to be taken. You are Srishti, living in 31, Surya Apartments, T. Nagar, Chennai.

OR

You are Rishabh based in House No. 66, Khidki Extension, Malviya Nagar, New Delhi. You are worried to see your younger brother's frequent habit of using Internet as a homework tool. Write a letter to the Editor of a popular newspaper, expressing your opinion on the advantages, disadvantages of the dependence of youth and the computers in the present times.

Q.4- Read the following sentences and note the word or phrase which has been underlined. One the words or phrase given below each sentence conveys almost the same meaning as the word or phrase which has been underlined. Identify the one which you find as being nearest in meaning. (3×1=3)

a) The abominable custom of women sacrificing themselves at the pyres of their dead husbands was abolished during the reign of William Bentick.
   A. Social
   B. Disgusting
   C. Sacred
   D. Moral
   E. Religious

b) The abortive coup staged by the military leaders had behind it the connivance of some of the prominent political leaders of the country.
   A. Excellent
   B. Much called for
   C. Ending in failure
   D. Well-timed
   E. Unceremonious

c) Long life expectancy can be had only by abstemious people.
   A. Honest
   B. Living in the open
   C. Hard working
   D. Virtuous
   E. Moderate in food and drink

Q.5- Identify and change the voice of these sentences: (2×1=2)

   (a) Anupam Kher is said to be a versatile actor.
   (b) Keep all the lights on till midnight.

Q.6- Each sentence has been divided into four parts, A, B, C & D. Out of the four parts one is defective (carries mistake). While answering the question you will quote the part A, B, C or D as the case may be that contains the mistake. In case you find the whole sentence 'all correct' your answer will be E. (2×1=2)

   (a) (A) She was conscious to (B) all that (C) was going on (D) around her place. (E)

   (b) (A) The soldier aimed at (B) the target and went on firing shots (C) till it was hit rightly (D) in the centre. (E)

Q.1- Prove that $\dfrac{\cot A + \cosec A - 1}{\cot A - \cosec A + 1} = \dfrac{1 + \cot A}{\sin A}$ (5)

Q.2- The length, breadth and height of a room are 8 m 25 cm, 6 m 75 cm and 4 m 50 cm, respectively. Find the length of the longest rod that can measure the three dimensions of the room exactly.   (3)

Q.3- Solve: $2x + 3y = 11$ and $2x - 4y = -24$ and then find the value of m for which $y = mx + 3$.   (3)

Q.4- Find a point on x-axis which is equidistant from the points $(7, 6)$ and $(-3, 4)$.   (2)

Q.5- Find the radius of a circle, if the length of tangent from a point at a distance of 25 cm from the centre of the circle is 24 cm.   (2)

Q.6- Why the sequence defined by $a_n = 3n^2 - 5$ is not an AP?   (1)

Q.7- Find the angle of elevation of the Sun when the shadow of a pole 'h' m high is $\sqrt{3}\,h$ m long .   (1)

Q.8- Find the degree of the polynomial : $\dfrac{-t^9 + 4t^6 + 7t^5}{t^5}$ (1)

Q.9- Find the ratio of the volumes of a cube to that of a sphere, which will exactly fit inside the cube.   (1)
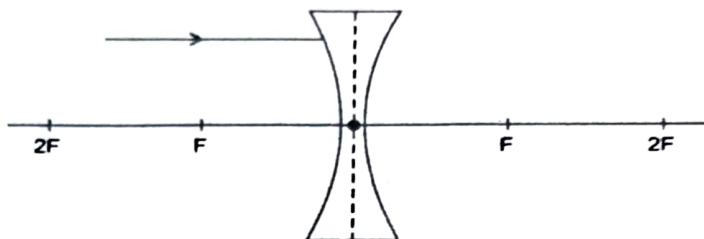
Q.10- If $\triangle ABC \sim \triangle PQR$ such that $\angle A = 40°$ and $\angle Q = 60°$, then find the value of $\angle C$.   (1)

Section 3

Physics (7)

Q.1- Write any two ways of increasing the speed of a DC motor. (2)

Q.2- Among a thick or a thin wire of same material and length, the current will flow more easily through which wire? Why? (2)

Q.3- Redraw the diagram and complete the path of the ray after refraction from the lens. (2)

Q.4- What is the relation between kWh and joule? (1)

Chemistry (7)

Q.1- Write a chemical equation in each case to represent the following types of chemical reactions of organic compounds: (3)
(i) Oxidation reactions
(ii) Addition reactions
(iii) Substitution reactions

Q.2- Name the natural source of each of the following acid (2)

(i) Citric acid. (ii) Oxalic acid.
(iii) Lactic acid. (iv) Tartaric acid.

Q. 3- Arrange the following metals in the decreasing order of reactivity: Na, K, Cu, Ag. (1)

Q. 4- Write the structural formula of chloroethane. (1)

Biology (6)

Q.1- Describe the role of the prostate gland, seminal vesicle and testes in the human male reproductive system. (3)

Q.2- The rate of breathing in aquatic organisms is much faster than that seen in terrestrial organism. Give reason. (2)

Q.3- Name any two parts of a bisexual flower that are not directly involved in reproduction. (1)

Section-4

Social Studies (20)

Geography (7)

Q.1- Describe the geographical conditions required for rice growth. (3)

Q.2- How bauxite is formed in rocks? (2)

Q.3- Explain any two problems faced by Iron and Steel Industry in India. (1)

Q.4- In which state of India is Bamboo Drip Irrigation system is most prevalent? (1)

Civics (7)

Q.1- Why power sharing is desirable? Give two prudential reasons. (2)

Q.2- Give two examples to show that political competition along with religious and ethnic lines can lead to disintegration. (2)

Q.3- Define Majoritarianism. (1)

Q.4- What do you understand by the term Patriarchy? (1)

Q.5- In which year was the Bhartiya Janta Party formed? (1)

History (6)

Q.1- Give two reasons why the Indians were outraged by the Rowlatt Act? (2)

Q.2- How Bretton Woods system worked? (2)

Q.3- What was the 'Idea of Satyagraha' of Mahatma Gandhi? (1)

Q.4- Which food travelled West from China to be called 'Spaghetti'? (1)

Section-5

Miscellaneous (20)

Computers (7)

Q.1- What is meant by virus? What are its types? How can it affect your computer? (3)

Q.2- Mention four differences between Procedural Oriented Programming (POP) and Object Oriented Programming (OOP). (2)

Q.3- What is the case sensitivity of a language? (1)

Q.4- What is database? (1)

Economics (7)

Q.1- Why is the issue of sustainability important for development? (2)

Q.2- Development of a country can generally be determined by _____. (1)

    a) its per capita income

    b) its average literacy level

    c) health status of its people

    d) all the above

Q.3- GDP is the total value of _____ produced during a particular year. (1)

    a) all goods and services

    b) all final goods and services

    c) all intermediate goods and services

    d) all intermediate and final goods and services

Q.4- The most common route for investments by MNCs in countries around the world is to _____. (1)

    a) set up new factories.

    b) buy existing local companies.

    c) form partnerships with local companies.

Q.5- Which institution issues currency notes on behalf of the Central Government in India? (1)

Q.6- Define 'Consumer'. (1)

Basic accountancy (6)

Q.1- Explain GST. (2)

Q.2- What is a bank reconciliation statement? (2)

Q.3- If the annual interest is 12% but the compounding is to be done quarterly, then what will be the rate of interest rate per quarter? (2)

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