

ESSAY/PRECIS WRITING AND DRAFT

Marks : 100

471

Time : 2½ hours

1. Write an essay within 1500 words on any of the following topics : 40

- a) Words of wisdom that hit home and changed your way of thinking.
- b) Lower voter turnout : A blot on democracy ?
- c) Aadhaar Project and the Right to Privacy.
- d) Smart cities in India.

2. Write a precis of the following passage and give a suitable title to it. 25+5=30

As with so many inventions, the Jacuzzi- the best known brand of hot tub- was invented to fulfil a very practical need ; in this case, the healthcare of a family member. The Jacuzzi family were Italian immigrants to the United States in the early 1900s who developed a strong company in the aviation industry, and then flourished by designing irrigation pumps. But it was not only in 1948 that they began developing the technology that would make them world famous. Candido Jacuzzi (1903-1986) had a son who contracted rheumatoid arthritis and received hydrotherapy treatment in hospital. Wanting to bring his son home, he developed a hydraulic pump to replicate the boy's therapy, and for some years the pump was marketed as the J-300 therapeutic device. In 1968 third generation family member Roy Jacuzzi developed the first version of the modern hot tub. Roy had joined the company as head of research and was

looking for new products. He took Candido's J-300 device and developed it to sell to the leisure industry as a whirlpool bath. Marketed as the 'Roman', Roy's design was the first self-contained consumer model to be sold. Previously an external pump had been lowered into the bath, but the Roman's pump was fully incorporated. The Roman pumped a 50/50 mix of water and air into the bath, a patented formula that the Jacuzzi brand still uses.

3. As a concerned resident of your city, draft a letter to the editor of a newspaper daily expressing your concern about reckless driving and parking in your city.

30

Each question carries 5 (FIVE) marks.

1. In an examination, 75% of the candidates passed in English and 65% in Mathematics while 15% failed in both English and Mathematics. If 495 candidates, passed in both the subjects, find the total number of candidates who took the examination.
2. If $(4137)^{753}$ is simplified, what will be the last digit in the answer ?
3. A box contains 20 paise, 10 paise and 5 paise coins in the ratio 5 : 3 : 4. If the total amount in the box is Rs. 15, find the number of coins of each type.
4. Find the value of the expression:

$$\left(2 - \frac{1}{3}\right)\left(2 - \frac{3}{5}\right)\left(2 - \frac{5}{7}\right) \dots \dots \dots \left(2 - \frac{999}{1001}\right)$$

5. Two vessels A and B contain mixture of milk and water in the ratio of 4:1 and 9:11 respectively. They are mixed in the ratio 3:2. Find the ratio of milk and water in the resulting mixture.
6. Find the least perfect square number which is exactly divisible by 8, 12, 15 and 20.
7. The sale of entrance tickets of an exhibition was Rs.6500 on the first day and showed a decrease of Rs.110 on every succeeding day. If the overall expenses of the exhibition are

Rs.1000 per day, find when the exhibition ceases to be profitable ?

8. Extract the square root of $\frac{1}{2}(-1 + \sqrt{-3})$

9. A man sells an article at a loss of 5%. If he had bought it at 20% more and sold it for Rs.115 less, he would have incurred a loss of 40%. Find the cost price of the article.

10. How many cubes, each of edge 3 cm, can be cut from a cube of edge 15 cm ?

11. Ram starts his journey from Mumbai to Pune and simultaneously Mohan starts from Pune to Mumbai. After crossing each other, they finish their remaining journey in $6\frac{1}{4}$ hours and 4 hours respectively. What is Mohan's speed if Ram's speed is 20 km/hr ?

12. Out of herd of camels, $\frac{7}{2}$ times the square root of the total are grazing in the field. Two remaining are sitting in the field. Find the total number of camels.

13. There is a passage of uniform width around a circular lawn. If the radius of the lawn is 20 metres and the area of the lawn is equal to that of the passage, find the width of the passage. Also find the expenditure required spreading concrete on the passage at the rate of Rs.3.50 per square metre.

14. Find the volume, curved surface area and the total surface area of a hemisphere of radius 21 cm.

15. 2 men and 7 boys finish a work in 14 days whereas 3 men and 8 boys finish the same work in 11 days. Find the number of days taken by 8 men and 6 boys for finishing the thrice of the above mentioned work.

16. Divide Rs.6000 into two parts so that the simple interest on the first part for 2 years at 6% per annum may be equal to the simple interest on the second part for 3 years at 8% per annum.

17. A sum of money put out at compound interest amounts in one year to Rs. 4,050 and in three years to Rs. 4,723.92. Find the original sum and the rate of interest.

18. Find the square root of 0.564260.

19. Simplify :

$$\frac{4.669 \times 4.669 - 2.331 \times 2.331}{(4.669)^2 + (2.331)^2 + 4.669 \times 4.662}$$

20. The diameter of a cylindrical tank is 24.5 metres and depth 32 metres. How many tonnes of water will it hold ?

GENERAL KNOWLEDGE

569

Marks : 50

Time : 1½ hours

25x2 = 50

1. What is Judicial Review ?
2. Mention the main function of the District Council.
3. State the laws of Diminishing Marginal Utility.
4. What do you mean by the theory of 'Drain of Wealth' ?
5. What is the full form of *http* in World Wide Web ?
6. State two demerits of shifting cultivation.
7. What do you understand by 'Ecosystem' ?
8. What is inflation ?
9. What is the meaning of USB in a computer ?
10. What is distance education ?
11. What is secularization ?
12. Mention two conditions which are necessary for Germination ?
13. What is an isosceles triangle ?
14. What was the Din i Ilahi ?
15. What is Photosynthesis ?
16. What does 'Laissez Faire' mean ?
17. What do you mean by communicable disease ?
18. What is the significance of the Sixth Schedule of the

Constitution of India ?

19. State two characteristics of living organisms.
20. Highlight the main provisions of the Right to Education as mentioned in Article 21A of the Indian Constitution.
21. What is Oxidation ?
22. Distinguish between consumer goods and capital goods.
23. What are the components of biosphere ?
24. How is public investment different from private investment ?
25. Mention two Fundamental Duties of the Indian citizens.
