MODEL TEST PAPER SUMMATIVE ASSESSMENT-II
Unsolved-2

Time : 2 hrs 30 min.   **Maximum Marks : 80**

GENERAL INSTRUCTIONS.

➢ Attempt all the questions neatly.
➢ Section- A: Q 1- Q 10 carry 1 mark each.
➢ Section- B: Q 11- Q 20 carries 2 marks each.
➢ Section- C: Q21-Q 30 carries 3 marks each.
➢ Section- D: Q31- Q 35 carries 4 marks each.

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SECTION A

Q.1. A cuboid is of dimension 16 cm × 10 cm × 0.2 m, its volume is _____ cm^3.

Q.2. If x and y vary inversely which of the following is true .

$x_1y_1 = x_2y_2$ Or $x_1 x_2 = y_1y_2$

Q.3. The buying price of a towel, when 10% sales tax added on the purchase of Rs 50 is

Rs _____.

Q.4. What is the rate when simple interest on Rs 1600 is Rs 576 after 3 years?   Rs _____

Q.5. The value of $(16^5 \div 16^3)^\circ = 1$. State True or False.

Q.6. The usual form of the number 3.02×10^{-4} is _____.

Q.7. Which one is the factor of $x^2 + 2x + 1$? Choose the correct option

(x + 1)   or   (x + 2)

Q.8. HCF of $15a^2 b^2$, – $20a^3 b$ and $10ab^2$ is _____.

Q.9. Point (5, 0) lies on _____ axis.

Q.10. How many axes does the Cartesian system have?   (Two/ Four)

SECTION B

Q.11. Find the area of a rhombus whose diagonals are of lengths 10 cm and 8.2 cm.

Q.12. If 50 metres of a cloth costs Rs 3725, how much cloth can be purchased for Rs 1788?

Q.13. Sohan bought a second hand refrigerator for Rs 3000 and sold it for Rs 3300. Find his loss or gain percent.

Q.14. If 8% VAT is included in the price, find the original price of a TV which was bought for Rs 13,500.

Q.15. Simplify and write the answer in exponential form:

$(2^5 \div 2^8)^5 \times 2^{-5}$

Q.16. Factorise: 15pq + 15 + 9q + 25p

Q.17. Find the value of $\left(\dfrac{1}{2}\right)^{-2} + \left(\dfrac{1}{3}\right)^{-2} + \left(\dfrac{1}{4}\right)^{-2}$

Q.18. Find the side of a cube whose surface area is 600 cm².

Q.19. Write the coordinate of the vertices of the quadrilateral ABCD :
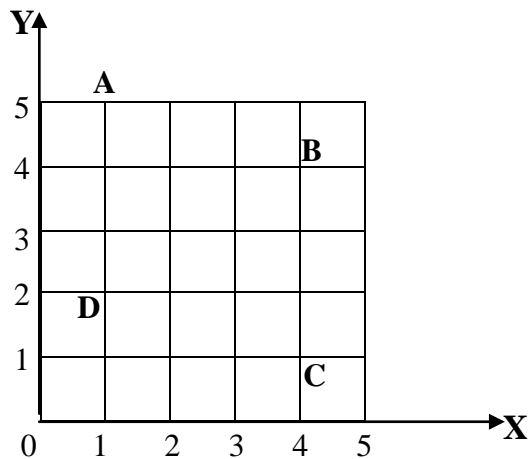
Q.20. The following graph shows the temperature of a patient in a hospital, recorded every hour.

(i)   What was the patient's temperature at 2 p.m.?

(ii)   When was the patient temperature 37.5°C?

SECTION C

Q.21. A rectangular paper with dimensions 11 cm × 4 cm is rolled without overlapping to make a cylinder of height 4 cm. Find the volume of the cylinder.

Q.22. 6 pipes are required to fill a tank in 1 hour 20 minutes. How long will it take if only 5 pipes of the same type are used?

Q.23. A vendor purchased eggs at Rs 16 per dozen and sold them at 10 for Rs 18. Find his gain or loss percent?

Q.24. Find the amount and compound interest on Rs 10000 for 1½ year at 10% per annum, compound half yearly.

Q.25. Find the value of x:

$$\left(\frac{2}{9}\right)^3 \times \left(\frac{2}{9}\right)^{-6} = \left(\frac{2}{9}\right)^{2x-1}$$

Q.26. By what number should $\left(\dfrac{-3}{2}\right)^{-3}$ be multiplied so that product is $\left(\dfrac{9}{4}\right)^{-2}$

Q.27. Solve:

$$\frac{6y+1}{3} + 1 = \frac{y-3}{6}$$

Q.28. Divide:

44 (x⁴ – 5x³ –24x²) by 11x (x –8)

Q.29. Factorise:

4b² – 28bc + 49c² – 25a²

Q.30. Solve:
15 (y – 4) – 2(y – 9) + 5(y + 6) = 0

SECTION D

Q.31. In a building there are 24 cylindrical pillars. The radius of each pillar is 2.8 m and height is 5 m. Find the total cost of painting the curved area of all the pillars at the rate of Rs 8 per m².

Q.32. (a) Draw a graph for the following data:

No. of years	1	2	3	4	5
Simple interest (In Rs)	60	120	180	240	300

(b) The graph obtained is linear. State true or false

Q.33. Factorise using appropriate identity:

(i) $63a^2 - 112b^2$

(ii) $q^2 - 10q + 21$

Q.34. A train is moving at a uniform speed of 75 km/ hr.

(a)   How far will it travel in 20 minutes?

(b)   Find the time required to cover a distance of 250 km.

Q.35. Top surface a raised platform is in the shape of a regular octagon with dimensions given in the figure. Find the area of the octagonal surface.

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