V9M

Virudhunagar District Common Examinations
Common Third Mid Term Test - February 2023

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Standard 9
MATHS

Time: 1.30 Hrs.

Marks: 50

PART - I

Attempt all the questions:

$7 \times 1 = 7$

1) The semi perimeter of the triangle having sides 15 cm, 20 cm and 25 cm is
   i) 60 cm   ii) 45 cm   iii) 30 cm   iv) 15 cm

2) The lateral surface area of a cube of side 12 cm is
   i) 144 cm^2 ii) 196 cm^2 iii) 576 cm^2 iv) 664 cm^2

3) The volume of a cuboid is 660 cm^3 and the area of the base is 33 cm^2. Its height is
   i) 10 cm   ii) 12 cm   iii) 20 cm   iv) 22 cm

4) The capacity of a water tank of dimensions 10m × 5m × 1.5m is
   i) 75 litres   ii) 750 litres   iii) 7500 litres   iv) 75000 litres

5) The particular observation that occurs maximum number of times in a given data is called
   i) mean   ii) median   iii) mode   iv) range

6) The algebraic sum of the deviations of set of n values from their mean is
   i) 0   ii) n   iii) n+1   iv) n−1

7) The mean of the squares of first 11 natural numbers is
   i) 26   ii) 46   iii) 48   iv) 52

PART - II

Attempt 5 questions only. Question number 14 is compulsory:

$5 \times 2 = 10$

8) Using Heron's formula, find the area of the triangle, whose sides are 10 cm, 24 cm and 26 cm.

9) Find the lateral surface area and total surface area of the cube whose side is 5 cm.

10) The dimensions of a fish tank are 3.8m × 2.5m × 1.6m. How many litres of water it can hold?

11) In a week, temperature of a certain city is measured during winter are as follows.
    26ºC, 24ºC, 28ºC, 31ºC, 30ºC, 26ºC, 24ºC. What is the mean temperature of the week?

12) The following are the scores obtained by 11 players in a cricket match. 7, 21, 45, 12, 56, 35, 25, 0, 58, 66, 29. Find the median score.

13) In a distribution, the mean and mode are 66 and 60 respectively. Calculate the median.

14) Find the sum of the deviations from the arithmetic mean for the following observations: 21, 30, 22, 16, 24, 28, 18, 17

PART - III

Attempt 5 questions only. Question number 21 is compulsory: **5×5=25**

15) Find the area of an equilateral triangle whose perimeter is 180 cm.

16) The length, breadth and height of a half are 25m, 15m and 5m respectively. Find the cost of renovating its floor and four walls at the rate of Rs. 80 per square meter.

17) The length, breadth and height of a cuboid are in the ratio 7:5:2 and its volume is 35840 cm^3. Find its dimensions.

18) Find the mean of the following data:

Age	0-10	10-20	20-30	30-40	40-50	50-60
Number of residents	2	6	9	7	4	2

19) The following are the marks scored by the students in an examination. Calcualte the median.

Class	0-10	10-20	20-30	30-40	40-50	50-60
Number of students	2	7	15	10	11	5

20) Find the mode for the following data:

Marks	1-5	6-10	11-15	16-20	21-25
Number of students	7	10	16	32	24

21) The dimensions of a sweet box are 22 cm × 18 cm × 10 cm. How many such boxes can be packed in a carton of dimensions 1m × 88 cm × 63 cm?

PART - IV

Answer one question only: **1×8=8**

22) Construct the DPQR such that PQ = 6 cm, ∠Q = 60º and QR = 7 cm and locate its orthocenter.   **(OR)**

Construct an equilateral triangle of side 6.5 cm and locate its incentre. Also draw the incircle.