SUMMATIVE ASSESSMENT – THIRD TERM

MATHEMATICS

Max. Marks: 100

Std - VIII

Time: 2½ Hrs

I. Choose the correct answer: **10 x 1 = 10**

1. $(-7)^3$ is equal to _____.
   a) 21 b) –21 c) –343 d) +343

2. (–21) × (–4) is equal to _____.
   a) –84 b) +84 c) +25 d) –25

3. $\sqrt{500 \times 20}$ is equal to _____.
   a) 10 b) 1000 c) 100 d) 10000

4. $\frac{56 \times 57}{2}$ is equal is _____.
   a) 1956 b) 1659 c) 5619 d) 1596

5. $\frac{1}{9} + \frac{1}{12} + \frac{1}{18}$ is equal to _____.
   a) $\frac{36}{9}$ b) $\frac{9}{36}$ c) $\frac{1}{2}$ d) $\frac{4}{12}$

6. If 6 men complete a piece of work in 10 days. 12 men will complete the same work in _____ days.
   a) 6 b) 18 c) 5 d) 20

7. 10 m/s = _____ km/hr.
   a) 18 b) 40 c) 36 d) 32

8. The three medians of the triangle intersect at the _____.
   a) Incenter b) Centroid c) Orthocenter d) Circumcenter

9. Area of the rhombus = _____ sq.units
   a) $\frac{1}{2} \times d_1 + d_2$ b) $\frac{1}{2} \times d_1 \times d_2$ c) $\frac{1}{2} \times d_1^2 + d_2^2$ d) $\frac{1}{2} \times d_1 - d_2$

10. _____ is the average of the observations in statistics.
    a) Median b) Mean c) Mode d) Frequency

II. Fill in the blanks with suitable answers: **5 x 1 = 5**

11. $\frac{205}{20}$ = _____

12. $460 \times \frac{3}{2}$ = _____

13. The centroid divides each median into two sections in the ratio _____.
14. The square root of 0.0144 is _____.
15. 90 km/hr = _____ m/s.

III. Match the following: **5 x 1 = 5**

16. $a^m \times a^n$ - a^{m-n}
17. $\frac{a^m}{a^n}$ - a^{mn}
18. $\left(a^m\right)^n$ - a^{m+n}
19. a^0 - $\frac{1}{a^m}$
20. a^{-m} - 1

IV. State whether the following statements are True or False: **5 x 1 = 5**

21. Orthocenter is equidistant from the three vertices of a triangle.
22. The perpendicular bisectors of a triangle intersect outside the triangle.
23. If all the 3 sides are equal in a triangle, then it is an equilateral triangle.
24. Time = distance × speed.
25. The sum of 1 + 2 + 3 …… + 56 is 2000.

V. Do as Directed: (Answer any 10) **10 x 3 = 30**

26. Find the square root of 61009 by the division method.
27. Evaluate: $\left(\frac{2}{3}\right)^{-3} \times \left(\frac{3}{7}\right)^{2}$
28. Find the cube root of 42875.
29. A cyclist travels 20 km in 4 hours. Find the cyclists speed in m/s.
30. What are the concurrent points of a triangle?
31. The following data represents the number of messages received by 10 people in a week.
    43, 37, 34, 35, 41, 28, 33, 35, 18, 24
    Find the mean, median and mode.
32. Define median and write the formula if '*n*' is odd and '*n*' is even.
33. Define centroid with a diagram.
34. A train passes through a telegraph post in 9 seconds moving at a speed of 54 km per hour. What is the length of the train?
35. Find the sum (use formula)
    114 + 115 + …….. + 133.
36. Simplify: $(3.769 \times 10^5) + (4.21 \times 10^5)$
37. Find the value: $\sqrt{33+\sqrt{1+\sqrt{64}}}$
38. Find the area of the square, if its perimeter is 28 cm,
39. Which is a better buy in the following choices?
    (i) A pack of 5 notebooks for ₹250 or 3 notebooks for ₹165?
    (ii) A dozen pencils for ₹42 or a score of pencils for ₹64? (score means 20 in number)

VI. Answer the following: (Any 8) **8 x 5 = 40**

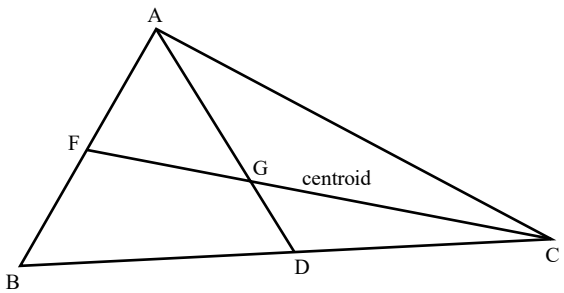
40. Evaluate: $\left\{\left(\frac{9}{7}\right)^{3}+\left(\frac{11}{5}\right)^{-2}\right\}\times\left(\frac{3}{11}\right)^{-2}$

41. Simplify: $\frac{3^{-7}\times 14^{-7}\times 343}{7^{-9}\times 6^{-7}}$

42. Evaluate: (i) $\sqrt[3]{4.913}$ (ii) 8^3 (iii) 11^3 (iv) $\sqrt[3]{1728}$

43. If 6 lorries can transport 135 tonnes of goods in 5 days, how many lorries are required to transport 180 tonnes of goods in 4 days.

44. BC = 16 cm, BF = 5 cm, AG = 6 cm, FG = 7 cm



45. Draw a histogram for the following data.

Class Interval	0-10	10-20	20-30	30-40	40-50	50-60
No. of students	5	15	23	20	10	7

46. Monthly expenditure of Kumaran's family is given below. Draw a suitable piechart.

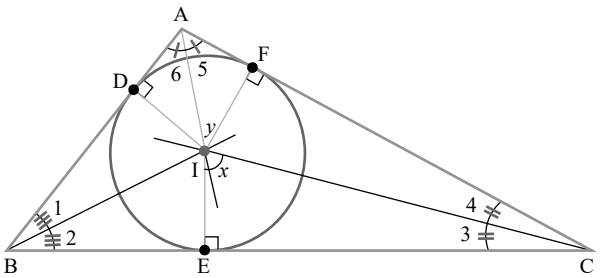
Particulars	Food	Education	Rent	Transport	Machines
Expenses (%) in	50%	15%	20%	10%	5%

47. The mean of 5 numbers is 11. The numbers are in the ratio of 1:2:3:4:5. Find the smallest number.

48. Write a packaging method for the books to be accommodated in book shelves. Each shelf can hold 14 books. The number of books in each category is given below.

Name of the books	Encyclopedia	Puzzle books	Stamp albums	Story books	GK books	Maths books
No. of books	10	6	2	12	8	4

49. If $\angle C = 40°$ $\angle 5 = 40°$. Find the value of x. Find all the angles of the triangle.



VII. Geometry: **1 x 5 = 5**

50. (i) Construct a rectangle whose length is 8 cm and breadth is 6 cm and find its area and perimeter.

(Or)

(ii) Construct a Rhombus ABCD, AB = 5 cm, $\angle A = 60°$ and find its area. (No need to write the construction).