

2025

Full Marks -100

Time - 3 hours

The figures in the right-hand margin indicate marks

Answer *all* questions

Part-I

1. Answer the following : 1 × 10

a) The sum of two numbers is 25 and their difference is 13. Find their product :

i) 100 ii) 112 iii) 110 iv) 114. ✓

b) Find the least value of * for which the number $13*1$ is divisible by 11 ?

i) 2 ii) 3 ✓ iii) 4 iv) 5.

c) Find the $\sqrt{16384}$?

i) 138 ii) 128 ✓ iii) 132 iv) 122.

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d) Simple $(125)^{-\frac{2}{3}}$?

- i) $\frac{1}{15}$ ii) $\frac{1}{25}$ iii) $\frac{1}{10}$ iv) $\frac{1}{25}$.

e) $15^4 \times 15^x = 15^6$ find the value of x ?

- i) 1 ii) 5 iii) 4 iv) 2.

f) Divide 12 by $3\sqrt{2}$

- i) $2\sqrt{2}$ ii) $3\sqrt{2}$ iii) $5\sqrt{2}$ iv) $7\sqrt{2}$.

g) The smallest natural number is ____.

- i) 0 ii) -1 iii) 1 iv) None of these.

h) The sum of the First 5 natural numbers is ____.

- i) 15 ii) 25 iii) 19 iv) 20.

i) 7248 is divisible by ____.

- i) 9 ii) 5 iii) 8 iv) 7.

j) If one third of one fourth of a number is 15. Then three tenth of that number is ____.

- i) 45 ii) 35 iii) 25 iv) 54.

Part-II

2. Answer the following :

2 × 9

a) The product of two numbers 18 and the sum of their squares (in) 45. The sum of the numbers is 9.

b) Ram's salary is increased from ₹ 24,000 to ₹ 30,000. Find the increased %. 25%

c) A person sold an article at a profit of 12%. If he had sold it ₹ 4 more, he would have gained 20%. What is the cost price ? ₹ 50/-

d) Find S.I. and the amount on ₹ 4000 at a rate of interest 5% for 6 months. ₹ 100 ₹ 4100

e) Divide 240 into two parts in the ratio 2 : 3. 96, 144

f) A can do a piece of work in 30 days while B alone can do it in 40 days. In how many days can A and B working together to do it ? 17.14 days
18 days

[Turn Over

- g) Find the perimeter of the triangle having length of the sides 5 cm, 8cm and 7 cm. *20 cm*
- h) Find the mean of 5, 11, 16, 10, 18. *12*
- i) Mouse : cat : worm : ____.
- i) Trap ii) Bird ✓
- iii) Paw iv) Grab.

Part-III

3. Answer any *eight* of the following : 5×8

- a) The difference between a two digit number and number obtained by interchanging the position of its digit is 36. What is difference between the two digits of that number ? *4*
- b) A sum of money put at S.I. doubles itself in 8 years. In how many years it will become five times ? *32 yrs*
- c) A person crosses a 600 meter long street in 5 minute. What is his speed in km per hour ? *7.2 km/h*

d) Find the area of the circle having radius 7cm.

154 cm²

e) Find the mode of the following data set :

1020, 962, 321, 1020, 420, 786, 962, 420,
962, 333, 469, 656.

962

f) In the series 357, 363, 369, what will be the
10th term ?

411

g) Solve the series JAF, JEF, JIF, JOF.

i) PIG ii) PET iii) JUF iv) POT.

h) A is B's sister, C is B's mother, D is C's father.

E is D's mother. Then how is A related to D ?

A is D's Grand daughter

i) Which of the two conclusions can be concluded
on the basis of given statements ?

Statement : All sides are lengths.

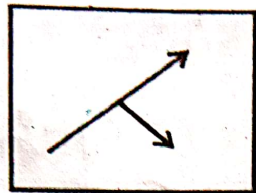
No length is a breadth.

Conclusions : All Lengths are sides

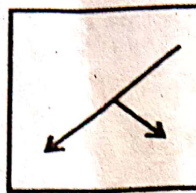
No breadth is a side.

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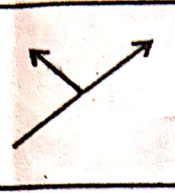
- j) Choose the correct mirror image of the given fig (X) from among the four alternatives.



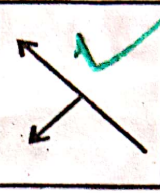
(X)



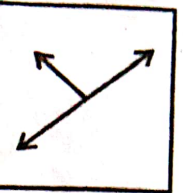
(1)



(2)



(3)



(4)

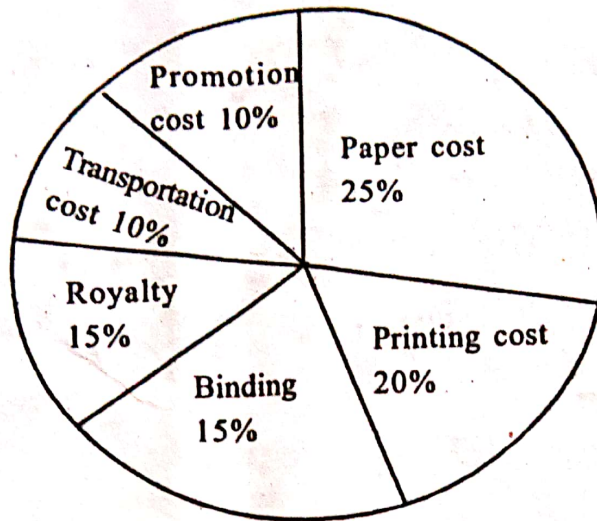
Part-IV

4. Answer any *four* of the following : 8×4

a) A shopkeeper bought 600 oranges and 400 bananas. He found 15% of oranges and 8% of bananas were rotten. Find the percentage of fruits in good condition. 87.8 %

b) Two concentric circle form a ring. The inner and the outer circumference of the ring are 132 cm and 176 cm respectively. Then find the width of the ring ? $\left(\pi = \frac{22}{7} \right)$ 7cm

c)



(Various Expenditure (%) incurred in publishing a book)

The following Pie-chart show the percentage distribution of the expenditure incurred in publishing a book. Study the pie-chart and answer the questions based on it.

- i) If for a certain quantity of books, the publisher has to pay ₹ 30,600 as printing cost then, what will be amount of royalty to be paid for these books ? *Rs 22,950/-*
- ii) Promotion cost on the book is less than the paper cost by what percentage ? *60%*
- iii) If the total cost of printing a certain quantity of books is ₹ 2,50,000. Then find the sum of its transportation cost, promotion cost and binding cost. *Rs 87,500*

[Turn Over

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- d) i) How many terms are there in the series 201, 208, 215, 369 ? 25
- ii) In the series 7, 14, 28..... what will be the 10th term ? 3584
- e) To complete a piece of work A and B take 8 days, B and C 12 days, A, B and C take 6 days. A and C will take how many days ? 8 days.

