

## PART - B

## • MCQs:

[40]

- |                                      |                         |                         |                        |
|--------------------------------------|-------------------------|-------------------------|------------------------|
| 1)6(c)                               | 11)0.604(c)             | 21) $\frac{25}{16}$ (a) | 31) (b)                |
| 2)not defined(d)                     | 12)0(a)                 | 22)Rs.300(c)            | 32)(c)                 |
| 3)-25(c)                             | 13)-8(b)                | 23)12(a)                | 33)(c)                 |
| 4) $\frac{105}{112}$ (c)             | 14) $\frac{7}{19}$ (c)  | 24)300(a)               | 34)diagonal PR (a)     |
| 5) $\frac{9}{8}$ (d)                 | 15) $\frac{-10}{3}$ (c) | 25)4(a)                 | 35)20% per annum(c)    |
| 6)125 (c)                            | 16) $\frac{-4}{9}$ (d)  | 26)90°(a)               | 36) $\frac{-3}{4}$ (a) |
| 7) $\frac{29}{6} > \frac{43}{2}$ (b) | 17) $\frac{-1}{7}$ (b)  | 27)0°(a)                | 37)0.0072(a)           |
| 8)0.2 (d)                            | 18) $\frac{81}{16}$ (a) | 28)75°(c)               | 38)26(a)               |
| 9) $\frac{6}{10}$ (a)                | 19) $2 \times 10^4$ (b) | 29)54°(b)               | 39)75%(a)              |
| 10) $\frac{6}{25}$ (a)               | 20)6(a)                 | 30)140°(b)              | 40)50°(a)              |

## Q-1 Solve the following (Any 08)

[16]

1)  $-127+300=\underline{173}$

2)  $-15+(-63)-(-45)+(-16)$

$$=-15-63+45-16$$

$$=-78+45-16$$

$$=-33-16$$

$$=(-49)$$

4)  $\frac{5}{12}, \frac{3}{4}, \frac{7}{8}, \frac{13}{24}$

L.C.M=24

$$\frac{5}{12} = \frac{5 \times 2}{12 \times 2} = \frac{10}{24},$$

$$\frac{3}{4} = \frac{3 \times 6}{4 \times 6} = \frac{18}{24}, \frac{7}{8} = \frac{7 \times 3}{8 \times 3} = \frac{21}{24}$$

$$\frac{13}{24} = \frac{13 \times 1}{24 \times 1} = \frac{13}{24}$$

$$\frac{10}{24} < \frac{13}{24} < \frac{18}{24} < \frac{21}{24}$$

Hence,  $\frac{5}{12} < \frac{13}{24} < \frac{3}{4} < \frac{7}{8}$

3)  $3\frac{3}{5} \div 2\frac{2}{5} = \frac{18}{5} \div \frac{12}{5}$

$$= \frac{18}{5} \times \frac{5}{12}$$

$$= \frac{3}{2}$$

$$= 1\frac{1}{2}$$

5)Product of two decimals=0.768

One decimal number =1.6

Other decimal number =  $\frac{\text{product of two decimal}}{\text{one decimal number}} = \frac{0.768}{1.6} = \frac{768 \times 10}{1000 \times 16} = \frac{48}{100} = \underline{0.48}$

**6)(1)Negative**

**(2)Positive**

**(3)Positive**

**(4)Negative**

$$7) \frac{13}{6} \times \text{Rational number} = \frac{-3}{7}$$

$$\begin{aligned} \therefore \text{Rational number} &= \frac{-3}{7} \div \frac{13}{6} \\ &= \frac{-3}{7} \times \frac{6}{13} \\ &= \frac{-18}{91} \end{aligned}$$

$$8) \frac{21}{16} \times \frac{12}{9} + \frac{-3}{8} \times \frac{-12}{9}$$

$$= \frac{7}{4} + \frac{1}{2}$$

$$= \frac{7+(+2)}{4}$$

$$= \frac{7+2}{4}$$

$$= \frac{9}{4}$$

$$= 2\frac{1}{4}$$

$$9)(1) \left[\frac{1}{2}\right]^{-3} = \frac{1}{\left[\frac{1}{2}\right]^3} = \frac{1}{2^3} = \frac{1}{8} \quad (2) \left[\frac{3}{5}\right]^{-2} = \frac{1}{\frac{3}{5}^{-2}} = \left[\frac{3}{5}\right]^2 = \frac{9}{25}$$

**Q-2 Solve the following (Any 04)**

**[12]**

**1):  $l \parallel m$  and  $n$  is transversal**

**$\angle a = \angle c$  (Vertically opposite angle)**

**Now  $\angle a = \angle f$  (Corresponding angles)**

$$\therefore \underline{\angle f = 72^\circ}$$

$$\therefore \angle f + \angle d = 180^\circ$$

$$\therefore 72^\circ + \angle d = 180^\circ$$

$$\therefore \angle d = 180^\circ - 72^\circ$$

$$\therefore \underline{\angle d = 108^\circ}$$

**$\therefore \angle e = \angle d$  (Alternate interior angles)**

$$\therefore \underline{\angle e = 108^\circ} \quad (\angle d = 108^\circ)$$

$\therefore \angle h = \angle e$  (vertically opposite angles)

$$\therefore \underline{\angle h = 108^\circ}$$

$\therefore \angle f = \angle g$  (vertically opposite angles)

$$\therefore \underline{\angle g = 72^\circ} \quad (\angle = 72^\circ)$$

&  $\angle d = \angle b$  (vertically opposite angles)

$$\therefore \underline{\angle b = 108^\circ} \quad (\angle d = 108^\circ)$$

2) C.P. = Rs.12,000 Profit = 20%

$$\begin{aligned} \text{S.P.} &= \frac{\text{CP} \times (100 + 20)}{100} \\ &= \frac{12000 \times (100 + 20)}{100} \\ &= \frac{12000 \times 120}{100} \\ &= \underline{\text{Rs.14,400}} \end{aligned}$$

$$3)(i) \left[\frac{4}{7}\right]^{12} \div \left[\frac{4}{7}\right]^P = \frac{64}{343}$$

$$\therefore \left[\frac{4}{7}\right]^{12} \div \left[\frac{4}{7}\right]^P = \frac{4^3}{7^3}$$

$$\therefore \left[\frac{4}{7}\right]^{12} \div \left[\frac{4}{7}\right]^P = \left[\frac{4}{7}\right]^3$$

$$\therefore 12 \div P = 3$$

$$\therefore \frac{12}{P} = 3$$

$$\therefore 12 = 3P$$

$$\therefore P = \frac{12}{3}$$

$$\therefore \underline{P = 4}$$

$$2) \left[\left\{\left(\frac{-7}{3}\right)^{-2}\right\}^3\right]^P = \left[\frac{-7}{3}\right]^{-18}$$

$$\therefore \left[\left\{\left(\frac{-7}{3}\right)^2\right\}^3\right]^P = \left[\frac{-7}{3}\right]^{-18}$$

$$\therefore \left[\left(\frac{-7}{3}\right)^6\right]^P = \left[\frac{-7}{3}\right]^{-18}$$

$$\therefore \left[\left(\frac{-7}{3}\right)^{6P}\right] = \left[\frac{-7}{3}\right]^{-18}$$

$$\therefore 6P = -18$$

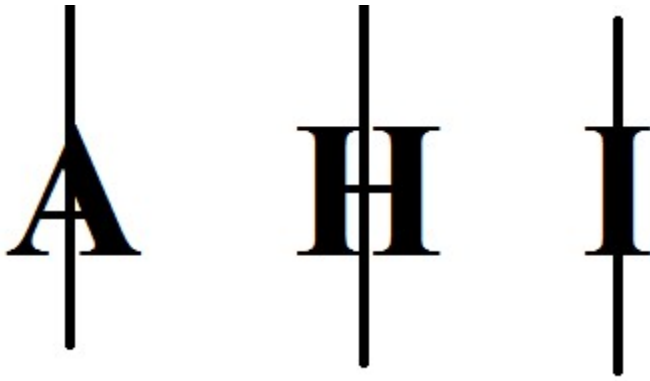
$$\therefore P = \frac{-18}{6}$$

$$\therefore \underline{P = (-3)}$$

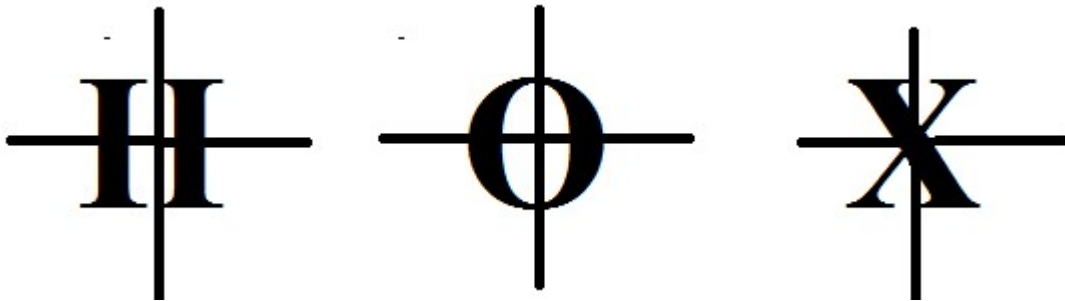
3) 1) B.C.D are the letters having reflectional symmetry about a horizontal mirror.



2) A, H, I are the letters having a reflectional symmetry about a vertical mirror.



3) H, O, X are the letters having a reflectional symmetry about both the vertical mirror and the horizontal mirror.



$$4) \quad (i) \quad 4\frac{6}{7} - 2\frac{2}{3} - \frac{20}{21} = \frac{34}{7} - \frac{8}{3} - \frac{20}{21} = \frac{102 - 56 - 20}{21} = \frac{26}{21} = 1\frac{5}{21}$$

$$(ii) \quad 10\frac{3}{5} + 2\frac{5}{6} - 5\frac{2}{3} = \frac{53}{5} + \frac{17}{6} - \frac{17}{3} = \frac{318 + 85 - 170}{30} = \frac{233}{30}$$

Q-3 (i) The cost of a notebook = Rs.  $6\frac{1}{3}$

∴ No. of notebooks that can be purchased for Rs. 126 =  $126 \div 6\frac{1}{3}$

$$= \frac{380}{3} \div \frac{19}{3}$$

= Rs. 20

OR

1) Charges for a journey of 94.8 Km. = Rs 687.30

∴ Charges for a journey of 1 Km. =  $\frac{687.30}{94.8}$

∴ Charges for a journey of 10 Km. = Rs.  $\frac{687.30 \times 10}{94.8} = \underline{\underline{\text{Rs. 72.5}}}$

$$2) \text{ (i) } \frac{-7}{4}, \frac{5}{-12}, \frac{-3}{16}, \frac{3}{-8} = \frac{-7}{4} = \frac{-7 \times 12}{4 \times 12} = \frac{-84}{48}$$

$$\frac{5}{-12} = \frac{5 \times 4}{-12 \times 4} = \frac{-20}{48}$$

$$\frac{-3}{16} = \frac{-3 \times 3}{16 \times 3} = \frac{-9}{48}$$

$$\frac{3}{-8} = \frac{3 \times 6}{-8 \times 6} = \frac{18}{48}$$

$\frac{-7}{4}, \frac{5}{-12}, \frac{3}{-8}, \frac{3}{-16}$  are in ascending order.

$$\frac{11}{-1}, \frac{-7}{10}, \frac{-3}{20}, \frac{7}{-3} = \frac{11}{-15} = \frac{11 \times (-4)}{-15 \times (-4)} = \frac{-4}{60}$$

$$\frac{-7}{10} = \frac{-7 \times 6}{10 \times 6} = \frac{-42}{60}$$

$$\frac{-3}{20} = \frac{-3 \times 3}{20 \times 3} = \frac{-9}{60}$$

$$\frac{7}{-30} = \frac{7 \times (-2)}{-30 \times (-2)} = \frac{-14}{60}$$

$\frac{11}{-15}, \frac{-7}{10}, \frac{7}{-30}, \frac{-3}{20}$  are in ascending order.

$$3) \frac{3}{5}, \frac{-2}{-3}, 0, \frac{1}{2}, \frac{-7}{6} = \frac{3}{5} = \frac{3 \times 6}{5 \times 6} = \frac{18}{30}$$

$$\frac{-2}{-3} = \frac{-2 \times 10}{-3 \times 10} = \frac{20}{30}$$

$$\frac{0}{1} = \frac{0 \times 30}{1 \times 30} = \frac{0}{30} = 0$$

$$\frac{1}{2} = \frac{1 \times 15}{2 \times 15} = \frac{15}{30}$$

$$\frac{-7}{6} = \frac{-7 \times 6}{6 \times 5} = \frac{-35}{30}$$

$\frac{-7}{6}, 0, \frac{1}{2}, \frac{3}{5}, \frac{-2}{-3}$  are in ascending order.

$$4) \frac{2}{-9}, \frac{-4}{3}, \frac{7}{-12}, \frac{-5}{18} = \frac{2}{-9} = \frac{2 \times 4}{-9 \times 4} = \frac{8}{-36}$$

$$\frac{-4}{3} = \frac{-4 \times 12}{3 \times 12} = \frac{-48}{36}$$

$$\frac{7}{-12} = \frac{7 \times (-3)}{-12 \times (-3)} = \frac{-21}{36}$$

$$\frac{-5}{18} = \frac{-5 \times 2}{18 \times 2} = \frac{-10}{36}$$

$\frac{-4}{3}, \frac{7}{-12}, \frac{-5}{18}, \frac{2}{-9}$  are in ascending order.

OR

2) Let the number be subtracted be x.

$$\therefore \left(\frac{-5}{18} + \frac{-5}{12}\right) - x = \frac{-11}{72}$$

$$\therefore \frac{-10+15}{36} - x = \frac{-11}{72}$$

$$\therefore \frac{5}{36} - x = \frac{-1}{72}$$

$$\therefore x = \frac{5}{36} + \frac{11}{72}$$

$$\therefore x = \frac{10+11}{72}$$

$$\therefore x = \frac{21}{72}$$

$$\therefore x = \frac{7}{24}$$

3) (i)  $\left(\frac{21}{16} \times \frac{12}{9}\right) + \left[\frac{-3}{8} \times \left(\frac{-12}{9}\right)\right]$

$$= \frac{7}{4} + \frac{1}{2}$$

$$= \frac{7+2}{4}$$

$$= \frac{9}{4} = 2\frac{1}{4}$$

(ii)  $\left(\frac{16}{10} \times \frac{15}{9}\right) + \left(\frac{-8}{27} \times \frac{9}{2}\right)$

$$= \frac{8}{3} + \frac{-4}{3}$$

$$= \frac{8+(-4)}{3}$$

$$= \frac{8-4}{3} = \frac{4}{3} = 1\frac{1}{3}$$

OR

3) distance covered by car in 1 Hr.

$$189\frac{1}{3} \div 4\frac{4}{9} = \frac{568}{3} \div \frac{40}{9}$$

$$= \frac{568}{3} \times \frac{9}{40}$$

$$= \frac{213}{5} = 42\frac{3}{5} \text{ Km}$$

4) (i)  $80,00,000 = 8 \times 10^6$

(ii)  $4,19,25,00,000 = 4.1925 \times 10^9$

(iii)  $480767 = 4.80767 \times 10^5$

(iv)  $93045.08 = 9.304508 \times 10^4$

(v)  $855970 = 8.55970 \times 10^5$

OR

4) let the principal be Rs. P.

R = 10% T = 5 years

$$\text{S.I.} = \frac{PRT}{100} = \frac{P \times 10 \times 5}{100} = \frac{P}{2}$$

**Amount =Principal +Interest**

$$36000 = P + \frac{P}{2}$$

$$36000 = \frac{2P+P}{2}$$

$$36000 = \frac{3P}{2}$$

$$3P = 72000$$

$$P = \frac{72000}{3}$$

$$P = \text{Rs.}24000$$

**FINISHED**