

ANSWERS AND EXPLANATIONS

EXERCISE 1

1. (b) Number of transferred employees

$$= 40\% \text{ of } 1225$$

$$= \frac{1225 \times 40}{100} = 490$$

- 2 (b) Let the original fraction is $\frac{x}{y}$.

$$\text{Then, } \frac{x+5x}{y+3y} = 2 \frac{4}{7}$$

$$\Rightarrow \frac{6x}{4y} = \frac{18}{7}$$

$$\Rightarrow \frac{x}{y} = \frac{72}{42} = \frac{12}{7}$$

3. (c) Let the income of Shilpa be = ₹x

∴ Expenditure on school fees, rent and furniture

$$= (8 + 25 + 17)\% = 50\%$$

$$\text{Remaining} = ₹ \frac{x}{2}$$

$$\text{Expenditure on medical bills} = ₹ \frac{x}{2} \times \frac{1}{4} = \frac{x}{8}$$

$$\text{Remaining amount} = \frac{x}{2} - \frac{x}{8} = \frac{3x}{8}$$

$$= ₹ \frac{4x - x}{8} = \frac{3x}{8}$$

$$\therefore \frac{3x}{8} = 6000$$

$$\Rightarrow x = \frac{6000 \times 8}{3} = ₹16000$$

$$\therefore \text{Expenditure on rent} = 16000 \times \frac{25}{100} = ₹4000$$

4. (b) Let the number be = x

$$\therefore (89 - 73)\% \text{ of } x = 448$$

$$\Rightarrow \frac{x \times 16}{100} = 448$$

$$\Rightarrow x = \frac{448 \times 100}{16} = 2800$$

$$\therefore 49\% \text{ of } 2800 = \frac{2800 \times 49}{100} = 1372$$

- 5 (e) Required production = $70 \left(1 + \frac{8}{100}\right)^2$ lakh tonnes

$$= 70 \left(1 + \frac{2}{25}\right)^2 \text{ lakh tonnes}$$

$$= 70 \times \frac{27}{25} \times \frac{27}{25} = 81.648 \text{ lakh tonnes}$$

6. (b) Let the number be = x

According to the question,

$$(58 - 39)\% \text{ of } x = 247$$

$$\text{or, } x \times \frac{19}{100} = 247$$

$$\text{or, } x = \frac{247 \times 100}{19} = 1300$$

$$\therefore 62\% \text{ of } 1300 = 1300 \times \frac{62}{100} = 806$$

7. (c) Population at the end of 2nd year

$$= 126800 \times \left(1 + \frac{15}{100}\right) \times \left(1 - \frac{20}{100}\right)$$



$$= 126800 \times \frac{115}{100} \times \frac{80}{100} = 116656$$

8. (a) Let the number be x .

$$\therefore \frac{75x}{100} - \frac{20x}{100} = 378.4$$

$$\text{or, } x = \frac{378.4 \times 100}{55}$$

$$\therefore \frac{40x}{100} = \frac{378.4 \times 100}{55} \times \frac{40}{100} = 275.2$$

9. (e) Fraction is $\frac{x}{y}$

$$\therefore \frac{x + \frac{200}{100}x}{y + \frac{150}{100}y} = \frac{9}{35}$$

$$\Rightarrow \frac{x + 2x}{y + 1.5y} = \frac{9}{35}$$

$$\Rightarrow \frac{3x}{2.5y} = \frac{9}{35}$$

$$\therefore \frac{x}{y} = \frac{9 \times 2.3}{3 \times 35} = \frac{3}{14}$$

10. (b) Let the number be $= x$

According to the question,

$$(42 - 35)\% \text{ of } x = 110.6$$

$$\text{or, } x \times \frac{7}{100} = 110.6$$

$$\text{or, } x = \frac{110.6 \times 100}{7} = 1580$$

$$\therefore 60\% \text{ of } 1580 = \frac{1580 \times 60}{100} = 948$$

11. (c) Let the original fraction be $= \frac{x}{y}$

According to the question,

$$\frac{x \times \frac{350}{100}}{y \times \frac{400}{100}} = \frac{7}{9}$$

$$\Rightarrow \frac{7x}{8y} = \frac{7}{9} \Rightarrow \frac{x}{y} = \frac{7}{9} \times \frac{8}{7} = \frac{8}{9}$$

12. (a) Weight of low quality of wheat in 150 kgs of wheat

$$= \frac{150 \times 10}{100} = 15 \text{ kg.}$$

Suppose that x kgs of good quality wheat is mixed.

According to the question,

$$\frac{(x+150) \times 5}{100} = 15$$

$$\text{or, } x = 150 \text{ kg.}$$

13. (b) Let the number be $= x$

$$\text{Difference in } \% = 42 - 28 = 14\%$$

$$\text{or } x = \frac{210 \times 100}{14} = 1500$$

$$\therefore \text{Required answer} = \frac{59}{100} \times 1500 = 885$$

14. (e) Let the maximum aggregate marks $= x$

According to the question,

$$40\% \text{ of } x - 4\% \text{ of } x = 261$$

$$\text{or } x \times \frac{(40-4)}{100} = 261$$

$$\therefore x = \frac{261}{36} \times 100 = 725$$

15. (b) Let the number be x .



$$\therefore \frac{x \times 58}{100} - \frac{x \times 39}{100} = 247$$

$$\Rightarrow x = \frac{247 \times 100}{19} = 1300$$

$$\therefore x \times \frac{82}{100} = 1300 \times \frac{82}{100} = 1066$$

$$\text{or, } x \times \frac{14}{100} = 135.10$$

$$\text{or, } x = \frac{135.10 \times 100}{14} = 965$$

$$\therefore 965 \text{ of } 40\%$$

$$= 965 \times \frac{40}{100} = 386$$

16. (a) The monthly salary of Manish will be

$$= \frac{3818 \times 100}{20} = ₹19090$$

17. (e) Required number of trans ferred employees

$$= \frac{1556 \times 25}{100} = 389$$

18. (d) Required % = $\frac{555 \times 100}{850} = 65.294\%$

$$= 65\% \text{ (approx.)}$$

19. (d) Total marks obtained by the student

$$= 6 \times \frac{64}{100} \times 150 = 576$$

Marks obtained in Hindi and English

$$= 25\% \text{ of } 576$$

$$= 576 \times \frac{25}{100} = 144$$

20. (b) Required percentage = $\frac{1012}{1150} \times 100 = 88$

21. (b) Polulation of the town after 2 years

$$= 198000 \left(1 + \frac{7}{100}\right) \left(1 - \frac{5}{100}\right)$$

$$= \frac{198000 \times 107 \times 95}{100 \times 100} = 201267$$

22. (d) Let the number be x.

According to the question,

$$(38 - 24\%) \text{ of } x = 135.10$$

23. (b) Let the number of girls in the school be = x

$$\therefore \text{Number of boys} = \frac{124x}{100}$$

$$\therefore \text{Required ratio} = \frac{124x}{100} : x$$

$$= 124 : 100 = 31 : 25$$

24. (d) Let the number be = x

According to the question,

$$(58 - 37)\% \text{ of } x = 399$$

$$\text{or, } x \times \frac{21}{100} = 399$$

$$\therefore x = \frac{399 \times 100}{21} = 1900$$

$$\therefore 72\% \text{ of } 1900 = 1900 \times \frac{72}{100} = 1368$$

25. (c) Let the maximum marks be = x

According to the question,

$$x \text{ or } 5\% = 296 - 259$$

$$\text{or, } \frac{x \times 5}{100} = 37$$

$$\therefore x = \frac{3700}{5} = 740$$

26. (b) Let the number be = x

According to the question,

$$\frac{58x}{100} - \frac{28x}{100} = 225$$



$$\text{or, } \frac{30x}{100} = 225$$

$$\text{or, } x = \frac{225 \times 100}{30} = 750$$

$$\therefore \text{ Required answer} = 750 \times \frac{38}{100} = 285$$

27. (c) Let the number be x

$$\therefore \frac{67x}{100} - \frac{42x}{100} = 214$$

$$\Rightarrow x = \frac{214 \times 100}{25}$$

$$\therefore \frac{75x}{100} = \frac{214 \times 100}{25} \times \frac{75}{100} = 642$$

28. (c) Required number of employees

$$= \frac{1850 \times 38}{100} = 703$$

29. (c) Required maximum aggregate marks

$$= (256 - 192) \times \frac{100}{10} = 640$$

30. (a) Required monthly income

$$= \frac{3960 \times 100}{30} = ₹13200$$

31. (e) Required approximate percentage

$$= \frac{654 \times 100}{950} \%$$

$$= 68.84\%$$

$$\approx 69\%$$

32. (b) Total amount spent

$$= 44620 + 32764 = ₹ 77384$$

Percentage of amount spent

$$= 100 - 32 = ₹ 68\%$$

$$\therefore 68\% = 77384$$

$$\therefore 100\% = \frac{77384 \times 100}{68}$$

$$= ₹ 113800$$

33. (c) Required amount

$$= \frac{2100}{6} \times (6 + 8 + 9)$$

$$= \frac{2100}{6} \times 23 = ₹ 8050$$

34. (a) Let the maximum marks be x

$$\therefore (265 + 55) = \frac{40x}{100}$$

$$\text{or } 320 \times 100 = 40x$$

$$\therefore x = \frac{320 \times 100}{40} = 800$$

35. (a) Let the original fraction = $\frac{x}{y}$

According to the question,

$$\frac{\frac{300x}{100}}{\frac{260y}{100}} = \frac{7}{13}$$

$$\text{or } \frac{30x}{26y} = \frac{7}{13}$$

$$\therefore \frac{x}{y} = \frac{7}{13} \times \frac{26}{30} = \frac{7}{15}$$

36. (b) 60% of 250 = 150

$$40\% \text{ of } 125 = 50$$

No. of correct answers in remaining 125 questions

$$= 150 - 50 = 100$$

$$\therefore \text{ Percentage} = \frac{100 \times 100}{125} = 80\%$$

37. (a) Let the original fraction be $\frac{x}{y}$, then, $\frac{x \times 320}{y \times 250} = \frac{4}{5}$



