Aptitude Assignment - 4

① Work done / water emptied by leak in 1 hour = $1/6$.

Water emptied by leak & inlet pipe in 1 hour = $1/8$

Work done by inlet pipe alone in 1 hour = $\frac{1}{6} - \frac{1}{8} = \frac{4-3}{24} = 1/24$

∴ time required to fill the tank when inlet is open is 24h

rate of inlet pipe is 4 Ltr per minute

24 hour = $24 \times 60 = 1440$ min

Capacity of the tank = 4×1440 L = 5760 Litre.

Answer: 5760 Litre

② 1000 inhabitants

60% = $\frac{60}{100} \times 1000 = 600$ Male

20% = $\frac{20}{100} \times 1000 = 200$ literate

20% of male are literate = $\frac{20}{100} \times 600 = 120$ male literate.

25% of literate of all inhabitant = $\frac{25}{100} \times 1000 = 250$ total literates

female literates are = $250 - 120 = 130$

% of female literates are = $\frac{130}{250} \times 100 = 52\%$ out of all literates

% of female literates = $\frac{130}{(1000-600)} \times 100 = 32.5\%$ out of all females

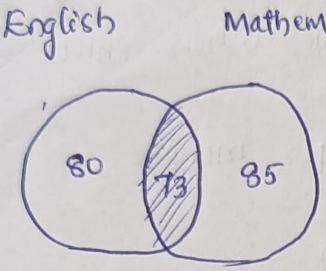
Answer: 32.5%

③ passed in English = 80 %

passed in Mathematics = 85 %

passed in English & Mathematics = 73 %

Let number of Candidate be 100



Total number of candidates passed = $80 + 85 - 73 = 92/100 = 92\%$

Total number of candidates failed = $100 - 92 = 8/100 = 8\%$

percentage of candidate failed in both the subject is 8 %

Answer : 8 %

④ Monthly income before = 13500 Rs

Monthly expenditure before = 9000 Rs

Monthly savings before = 13500 - 9000 = 4500 Rs

monthly income after = $\frac{114}{100} \times 13500 = 15390$ Rs

Monthly expenditure after = $\frac{107}{100} \times 9000 = 9630$ Rs

Monthly savings after = 15390 - 9630 = 5760 Rs

percentage increase in savings is = $\frac{5760 - 4500}{4500} \times 100 = 28\%$

Answer : 28 %

(5)

49 pumps – 10 days – working 10 hours

70 pumps – ? days – working 7 hours

$49 \times 10 \times 10 = 70 \times ? \times 7$

$? = \frac{49 \times 10 \times 10}{70 \times 7} = 10$ days

Answer : 10 days