

Quiz Date: 24<sup>th</sup> July 2020

Q1. 400 students took a SSC exam in Delhi. 60% of the boys and 80% of the girls qualified the cut off in the examination. If the total percentage of students qualifying is 65%, how many girls appeared in the examination ?

- (a) 100
- (b) 120
- (c) 150
- (d) 300
- (e) 350

Q2. Two workers A and B working together completed a job in 5 days. If A had worked twice as efficiently as he actually did, the work would have been completed in 3 days. To complete the job alone, A would require

- (a)  $5\frac{1}{5}$  days
- (b)  $6\frac{1}{4}$  days
- (c)  $7\frac{1}{2}$  days
- (d)  $8\frac{3}{4}$  days
- (e) 10 days

Q3. A, B and C can complete a piece of work in 10, 12 and 15 days respectively. A left the work 5 days before the work was completed and B left 2 days after A had left. Number of days required to complete the whole work was:

- (a)  $8\frac{2}{3}$  days
- (b) 6 days
- (c)  $6\frac{2}{3}$  days
- (d) 7 days
- (e) 9 days

Q4. A train travels a distance of 600 km at a constant speed. If the speed of the train is increased by 5 km/hr, the journey would take 4 hrs less. Find the speed of the train.

- (a) 100 km/hr
- (b) 25 km/hr
- (c) 50 km/hr
- (d) Cannot be determined
- (e) None of these

Q5. An article is sold at 30% profit. Had it been sold at Rs. 155 more than previous selling price and the cost price were also increased by Rs. 100 then profit would have been 5% more. Then find the CP of the article.

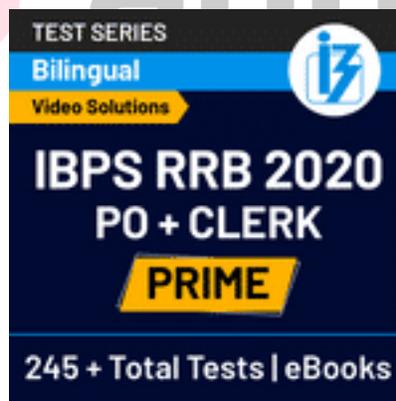
- (a) Rs. 500
- (b) Rs. 400
- (c) Rs. 460
- (d) Rs. 480
- (e) Rs. 540

Q6. There is a certain amount from which A takes 25% then B takes 50% of remaining amount, then C takes 75% of the remaining amount. Now if the amount left is 5,760 then what is the actual sum?

- (a) Rs. 58,220
- (b) Rs. 59,680
- (c) Rs. 60,600
- (d) Rs. 61,440
- (e) None of these

Q7. In a test, a candidate secured 456 marks out of maximum marks 'x'. If the maximum marks 'x' had been converted into 600 marks, he would have secured 342 marks. What was the maximum marks of the test?

- (a) 500
- (b) 650
- (c) 600
- (d) 800
- (e) 700



Q8. A sold a table to B at a profit of 20%. B sold the same table to C for Rs 75 thereby making a profit of 25%. Find the price at which A bought the table from X.

- (a) Rs 30
- (b) Rs 40
- (c) Rs 50
- (d) Rs 60
- (e) Rs.75

Q9. The ratio of milk and water in mixture of four containers are 5 : 3, 2 : 1, 3 : 2 and 7 : 4 respectively in which container is the quantity of milk relative to water is minimum ?

- (a) first
- (b) second
- (c) third
- (d) fourth
- (e) first and third both

Q10. In what ratio should two qualities of coffee powder having the rates of Rs. 47 per kg and Rs. 32 per kg be mixed in order to get a mixture that would have a rate of Rs. 37 per kg ?

- (a) 1 : 2
- (b) 4 : 1
- (c) 1 : 3
- (d) 3 : 1
- (e) 1 : 4

Q11. A tank is normally filled in 8 hours but takes 2 hours longer to fill because of a leak in its bottom. If the cistern is full, in how many hrs will the leak empty it ?

- (a) 45
- (b) 50
- (c) 40
- (d) 35
- (e) 55

Q12. A man can row 6 km/hr in still water. If it takes him twice as long to row up, as to row down the river, then the rate of current in the stream would be

- (a) 4 km/hr
- (b) 2 km/hr
- (c) 3 km/hr
- (d) 8 km/hr
- (e) 6 km/hr

Q13. The sum of the radius and height of a cylinder is 18 metre. The total surface area of the cylinder is 792 sq. metre, what is the volume of the cylinder? (in cubic metre)

- (a) 1848
- (b) 1440
- (c) 1716
- (d) 1724
- (e) 1694

Q14. The difference between simple interest and compound interest of a certain sum of money at 20% per annum for 2 years is Rs. 48. Then the sum is:

- (a) Rs. 1,000
- (b) Rs. 1,200
- (c) Rs. 1,500
- (d) Rs. 2,000

(e) Rs. 2,500

Q15. In a class, there are 15 boys and 10 girls. Three students are selected at random. The probability that only girls or only boys get selected is:

- (a)  $\frac{1}{3}$   
 (b)  $\frac{2}{5}$   
 (c)  $\frac{1}{4}$   
 (d)  $\frac{1}{5}$   
 (e)  $\frac{3}{5}$

### Solutions

S1. Ans.(a)

Let total girls = x

∴ Total boys = (400 - x)

ATQ,

$$(400 - x) \times \frac{60}{100} + x \times \frac{80}{100} = \frac{65}{100} \times 400$$

$$\Rightarrow 240 - \frac{6x}{10} + \frac{8x}{10} = 260$$

$$\Rightarrow x = 100$$

Sol.

S2. Ans.(c)

According to question,

$$\frac{1}{A} + \frac{1}{B} = \frac{1}{5} \quad \& \quad \frac{2}{A} + \frac{1}{B} = \frac{1}{3}$$

$$\Rightarrow \frac{1}{5} - \frac{1}{A} = \frac{1}{3} - \frac{2}{A} \Rightarrow \frac{1}{A} = \frac{1}{3} - \frac{1}{5}$$

$$\Rightarrow \frac{1}{A} = \frac{5-3}{15} = \frac{2}{15}$$

So, A can do the work in  $7\frac{1}{2}$  days

Sol.

S3. Ans.(d)

$$\frac{x-5}{10} + \frac{x-3}{12} + \frac{x}{15} = 1$$

$$\Rightarrow \frac{6x-30+5x-15+4x}{60} = 1 \Rightarrow 15x = 60 + 45$$

Sol. x = 7 days.

S4. Ans.(b)

Using formula,

$$\frac{S(S+5)}{5} \times 4 = 600$$

$$S(S+5) = 750 = 25(25+5)$$

Speed of the train = 25 km/hr

**Alternately,**

$$\frac{600}{s} - \frac{600}{s+5} = 4$$

$$\frac{600s+3000-600s}{s(s+5)} = 4$$

$$s = 25 \text{ km/hr}$$

Sol.



S5. Ans.(b)

Let 'CP' of article =  $100x$

SP of article =  $130x$

Increased CP =  $(100x + 100)$

Increase SP =  $(130x + 155)$

$$\text{Profit} = \frac{(130x + 155) - (100x + 100)}{100x + 100} \times 100$$

$$35(100x + 100) = (30x + 55) \times 100$$

$$3500x + 3500 = 3000x + 5500$$

$$\Rightarrow x = 4$$

CP of article = Rs. 400

Sol.

S6. Ans.(d)

Let Actual sum =  $x$

$$\therefore 75\% \text{ of } 50\% \text{ of } 25\% \text{ of } x = 5760$$

$$\therefore x = \frac{5760 \times 100 \times 100 \times 100}{75 \times 50 \times 25} = \text{Rs. } 61440$$

Sol.

S7. Ans.(d)

Maximum marks

$$= \frac{456 \times 600}{342}$$

$$= 800$$

Sol.

S8. Ans.(c)

Selling price by A = cost price to B

$$= 75 \times \frac{100}{125}$$

$$= \text{Rs. } 60$$

$$\therefore \text{Cost price to A} = 60 \times \frac{100}{120} = 50 \text{ rupees}$$

Sol.

S9. Ans.(c)

Sol.

Let four containers have  $8\ell$ ,  $3\ell$ ,  $5\ell$  and  $11\ell$  mixture of milk and water respectively.

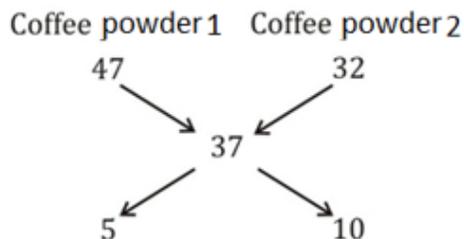
$\therefore$  Relative quantities of milk with respect to water in four containers

$$= \frac{5}{3}, \frac{2}{1}, \frac{3}{2} \text{ and } \frac{7}{4} \text{ litres respectively}$$

$$= 1.67, 2, 1.5 \text{ and } 1.75 \ell$$

Clearly containers 3<sup>rd</sup> has minimum quantity of milk.

S10. Ans.(a)



$$\text{Required ratio} = \frac{5}{10}$$

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

Sol.

S11. Ans.(c)

Required time to empty the tank

$$= \frac{1}{8} - \frac{1}{10} = \frac{5-4}{40} = \frac{1}{40}$$

i.e. 40 hours will be required.

Sol.

S12. Ans.(b)

Let rate of current is  $s$  kmph

ATQ,

$$(6 - s) \times 2t = (6 + s) \times t$$

$$\Rightarrow 12 - 2s = 6 + s$$

$$\Rightarrow s = 2 \text{ km/hr}$$

Sol.

S13. Ans.(e)

Let radius and height of cylinder are  $r$  and  $h$  metres respectively.

$$\therefore \text{Total S.A.} = 2\pi rh + 2\pi r^2$$

$$= 2\pi r (h + r)$$

$$\Rightarrow 2\pi r (r + h) = 792$$

$$\Rightarrow 2 \times \frac{22}{7} \times r \times 18 = 792$$

$$\Rightarrow r = 7 \text{ metre}$$

$$\therefore h = 11 \text{ metre}$$

$\therefore$  Volume of cylinder

$$= \pi r^2 h$$

$$= \frac{22}{7} \times 7 \times 7 \times 11$$

$$= 1694 \text{ metre}^3$$

Sol.

S14. Ans.(b)

$$CI_2 - SI_2 = P \left( \frac{R}{100} \right)^2$$

$$48 = P \left( \frac{20}{100} \right)^2$$

$$P = 1200$$

Sol.

S15. Ans.(c)

$$\text{Required probability} = \frac{{}^{15}C_3}{{}^{25}C_3} + \frac{{}^{10}C_3}{{}^{25}C_3}$$

$$= \frac{15 \times 14 \times 13}{25 \times 24 \times 23} + \frac{10 \times 9 \times 8}{25 \times 24 \times 23}$$

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

Sol.

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