**Course: RBI ASSISTANT Mains**

**Subject: : Practice Set**

**Time:15 Minutes**

**Published Date: 11th April 2020**

Directions (1-5): Read the following graph carefully and answer the questions given below:-

Delhi University offers two courses PG and PhD. The information regarding number of students applied for these two courses and among them how many got selected from year 2004-2009 are shown by the graph given below:

Q1. What is the respective ratio of the number of students increase/decrease in the students got selected for PG in 2005 over year 2004 to the number of students increase/decrease in the number of students applied for PhD in year 2008 over year 2007?

(a) 847:900

(b) 847:890

(c) 900:847

(d) 860:895

(e) 854:900

L1Difficulty 3

QTags Miscellaneous DI

QCreator Paper Maker 10

Q2. Average number of students got selected for PhD program is approximately what percent more/less than the average number of students applied for PG programs?

(a) 72% less

(b) 72% more

(c) 82% less

(d) 82% more

(e) 77% more

L1Difficulty 3

QTags Miscellaneous DI

QCreator Paper Maker 10

Q3. Which year shows the highest difference between the number of students applied and got selected for PhD programs?

(a) 2004

(b) 2005

(c) 2006

(d) 2008

(e) 2009

L1Difficulty 3

QTags Miscellaneous DI

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Q4. Ratio of number of students selected in 2005, 2007 and 2009 for PhD course to number of students applied in 2004, 2006 and 2008 for same course is:

(a) 2389 : 4980

(b) 2581 : 4700

(c) 2679 : 4321

(d) 2471 : 5321

(e) None of the above

L1Difficulty 3

QTags Miscellaneous DI

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Q5. In PG program which year shows highest percentage increase/decrease in number of students selected over previous year?

(a) 2005

(b) 2006

(c) 2007

(d) 2008

(e) 2009

L1Difficulty 3

QTags Miscellaneous DI

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Direction (6 – 11): What approximate value should come in the place of question mark (?) in the given questions:

Q6. 55.01 $×47.98-$ ? % of 7999.93 = (11.89)3 + 68.11 $×4.01$

(a) 8

(b) 12

(c) 16

(d) 2

(e) 18

L1Difficulty 3

QTags Approximation

QCreator Paper Maker 10

Q7. $\frac{352.09+ ?}{31.98}+125.11\% of $63.98 – $\sqrt{361.05}= $(10.11)2

(a) 848

(b) 896

(c) 832

(d) 820

(e) 872

L1Difficulty 3

QTags Approximation

QCreator Paper Maker 10

Q8. $\frac{4589.79}{?}+\left(24.89\right)^{2}-36.89\% of 4798.98+104.87=\left(21.86\right)^{2}$

(a) 10

(b) 8

(c) 12

(d) 3

(e) 19

L1Difficulty 3

QTags Approximation

QCreator Paper Maker 10

Q9. 44.03 $×24.98+ $48.03 $×14.99 + ?=32.07\% of 6000.09$

(a) 120

(b) 100

(c) 140

(d) 160

(e) 180

L1Difficulty 3

QTags Approximation

QCreator Paper Maker 10

Q10. ? % of 699.97 + (20.87)2 – $\sqrt{3843.86}=\left(17.91\right)^{3}$

(a) 779

(b) 484

(c) 684

(d) 729

(e) 801

L1Difficulty 3

QTags Approximation

QCreator Paper Maker 10

Q11. 547.05 + 243.02 - ? = 24.89 % of 2584.11

(a) 128

(b) 144

(c) 120

(d)118

(e) 156

L1Difficulty 3

QTags Approximation

QCreator Paper Maker 10

Q12. Time taken by a boat to cover (D-11) km in upstream is 5 times of the time taken by boat to cover (D-21) km in downstream. If ratio of speed of current to speed of boat in downstream is 1 : 3 and boat can cover (D-8) km in upstream in 14 hours, then, find speed of boat in still water?

(a) 6 kmph

(b) 4 kmph

(c) 8 kmph

(d) 5 kmph

(e) 7 kmph

L1Difficulty 3

QTags Boat And Stream

QCreator Paper Maker 10

Q13. A, B and C can complete a work in 20 days working together. A and B together are 50% more efficient than C and A & C together are 100% more efficient than B. Then in how many days A alone can complete the work?

(a)None of these

(b)85 days

(c)80 days

(d)75 days

(e)65 days

L1Difficulty 3

QTags Time And Work

QCreator Paper Maker 10

Q14. A container contains mixture of milk and water in the ratio 7 : x. If 20 litre of water is added to mixture then ratio of milk to water becomes 7 : 15 and if 10 litres of water is added then ratio of milk to water becomes 14 : 25. Find initial quantity of milk in the mixture.

(a) 42 L

(b) 35 L

(c) 28 L

(d) 21 L

(e) 14 L

L1Difficulty 3

QTags Mixture and allegation

QCreator Paper Maker 10

Q15. Veer bought 12 jeans at a discount of 12.5%. If cost price of one jeans is 80% of marked price of one jeans and total profit obtained on all jeans is Rs.1800 then find the total cost price of one jeans.

(a) Rs. 1200

(b) Rs. 1700

(c) Rs. 2000

(d) Rs. 1800

(e) Rs. 1600

L1Difficulty 3

QTags Profit And Loss

QCreator Paper Maker 10

**Solutions**

S1. Ans (a)

Sol. increase in selected students in PG in 2005$=$6035-1800=4235

increase in number of applied students in PhD in 2008 $=$13500-9000=4500

Required ratio $=4235 :4500=847 : 900 $

S2. Ans (a)

Sol. Average students selected for PhD program $=\frac{2160+4550+2850+4455+3402+3900}{6}=\frac{21317}{6}=3553$ (approx)

Average number of students applied for PG program $=\frac{8000+17000+10000+14000+16500+11000}{6}=\frac{76500}{6}=12750$

Required percentage $=\frac{12750-3553}{12750}×100=72\%$ less

S3. Ans (e)

Sol. Difference for year 2004 $=4000-2160=1840$

For year, 2005 $=13000-4550=8450$

For year, 2006 $=6000-2850=3150$

For year, 2007 $=9000-4455=4545$

For year, 2008 $=13500-3402=10098$

For year, 2009 $=15000-3900=11100$

S4. Ans (b)

Sol. Number of students selected in 2005, 2007 and 2009 for PhD course $=13000×\frac{35}{100}+9000×\frac{49.5}{100}+15000×\frac{26}{100}$

 $=4550+4455+3900$

= 12905

Number of students applied in 2004, 2006 and 2008 for PhD course $=4000+6000+13500=23500$

Asked ratio $=12905 :23500$

 $=2581 :4700 $

S5. Ans (a)

Sol. Percentage increase/decrease in the number of selected students

For year 2005 $=\frac{6035-1800}{1800}×100=235\%$

For year 2006 $=\frac{6035-2350}{6035}×100=61\%$

For year 2007 $=\frac{6370-2350}{2350}×100=171\%$

For year 2008 $=\frac{9570-6370}{6370}×100=50\%$

For year 2009 $=\frac{9570-5280}{9570}×100=44.8\%$

S6. Ans(a)

Sol.

55 $×48$ - $\frac{?}{100}×8000 $= (12)3 + 68 $×4$

$\frac{?}{100}×8000=2640-1728-272$

? = $\frac{640×100}{8000}$

? = 8

S7. Ans(b)

Sol.

$\frac{352 + ?}{32}+\frac{125}{100} × $64 – $\sqrt{361}= $(10)2

$$\frac{352 + ?}{32}=100+19-80$$

 ? = 1248 – 352

 ? = 896

S8. Ans(d)

Sol.

$$\frac{4590}{?}+\left(25\right)^{2}-\frac{37×4800}{100}+105=\left(22\right)^{2}$$

$$\frac{4590}{?}+625-1776+105=484$$

$$\frac{4590}{?}=\left(484+1776-730\right)$$

$$?=\frac{4590}{1530}$$

? = 3

S9. Ans(b)

Sol.

44 $×25+ $48 $×15 + ?=\frac{32}{100} ×6000$

1100 + 720 + ? = 1920

? = 1920 – 1820

? = 100

S10. Ans(a)

Sol.

$\frac{?}{100}$× 700 + (21)2 - $\sqrt{3844}$= (18)3

$\frac{?}{100}$× 700 + 441 - 62 = 5832

$\frac{?}{100}$× 700 = 5832 – 441 + 62

? = $\frac{5453 }{7}$

? = 779

S11. Ans.(b)

Sol.

$547+243 –?=\frac{25}{100}×2584$

790 – ? = 646

? = 790 – 646

? = 144

S12. Ans.(b)

Sol.

Let speed of boat in still water = x kmph

And speed of current = y kmph

∴ upstream speed = (x – y) kmph

Downstream speed = (x + y) kmph

ATQ,

$\frac{D-11}{x-y}=\frac{5(D-21)}{x+y}$ …(i) $\left[using time =\frac{Distance}{Speed}\right]$

Also,

$$\frac{y}{x+y}=\frac{1}{3}$$

⇒ x + y = 3y

⇒ x = 2y …(ii)

From (i) & (ii)

$$\frac{D-11}{2y-y}=\frac{5\left(D-21\right)}{2y+y}$$

$$D-11=\frac{5\left(D-21\right)}{3}$$

3D – 33 = 5D - 105

2D = 72

D= 36 km

Also,

$\frac{D-8}{x-y}=14$ $\left[using time=\frac{Distance}{speed}\right]$

$$\frac{36-8}{2y-y}=14$$

$y=\frac{28}{14}=2$ kmph

Speed of boat in still water = x = 2y

= 2 × 2 = 4 kmph

S13. Ans.(d)

Sol.

Let efficiency of A, B and C be a, b and c respectively

ATQ,

$\frac{a+b}{c}$ = $\frac{3}{2}$ …(i)

$\frac{a+c}{b}$ = $\frac{2}{1}$ …(ii)

On solving (i) and (ii)

a : b : c = 4 : 5 : 6

∴ A alone can complete in = $\frac{20×15}{4}$ = $75$ days

S14. Ans.(c)

Sol.

Let initial quantity of milk and water in the mixture be 7y and xy respectively

So,

$\frac{7y}{xy+20}=\frac{7}{15}$

105y = 7xy + 140 …(i)

and

$\frac{7y}{xy+10}=\frac{14}{25}$

175y = 14xy + 140 …(ii)

Solving (i) and (ii)

$y$ = $4 $

Initial quantity of milk in mixture = 7y = 28 L

S15. Ans.(e)

Sol.

Let marked price of one jeans be 100x

So cost price of one jeans be 80x

and selling price of one jeans be 87.5x

ATQ,

12 × (87.5x – 80x) = 1800

7.5x = 150

⇒ x = 20

Total cost price of all jeans = 80 × 20 = Rs. 1600