

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

Mathematics

1. A train takes 90 seconds to cross a poll with speed of 60 km/h. Find the length of the train?

- a) 1500 m
- b) 1250 m
- c) 1350 m
- d) 1400 m

Answer: (A)

Speed of train = $60 \text{ km/h} \times \frac{5}{18} = 50/3 \text{ m/ sec}$

Length of train = $90 \times 50/3 = 1500 \text{ m}$

2. Find the volume of cylinder whose radius is 14 cm and height is $3/7$ of the radius?

- a) 1066π
- b) 1076π
- c) 1176π
- d) 1286π

Answer: (C)

Radius = 14cm

Height = $3/7 \times 14 = 6 \text{ cm}$

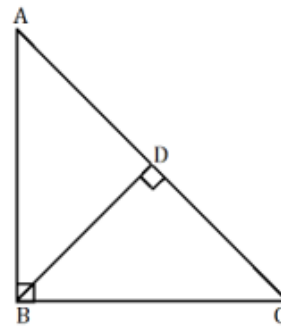
Volume = $\pi(14)^2 \times 6 = 1176\pi$

3. In the right angled triangle ABC, AB = 12cm and BC = 16cm. a perpendicular is drawn from B to AC. Find the length of that perpendicular?

- a) 9.6cm
- b) 8.4cm
- c) 10.2cm
- d) 11.2 cm

Answer: (A)

Given AB=12 cm and BC=16 cm



$$\therefore AC = \sqrt{12^2 + 16^2} = \sqrt{144 + 256} = \sqrt{400} = 20 \text{ cm}$$

Now area of the ΔABC

$$\therefore \frac{1}{2} \times AB \times BC = \frac{1}{2} AC \times BD$$

$$\Rightarrow 12 \times 16 = 20 \times BD$$

$$\Rightarrow BD = 12 \times \frac{16}{20} = 9.6 \text{ cm}$$

4. The value of $1800 \div 20 \times \{(12 - 6) + (24 - 12)\}$

is:

- a) 2720
- b) 1720
- c) 840
- d) 1620

Answer: (D)

$$1800 \div 20 \times \{(12 - 6) + (24 - 12)\}$$

$$= 90 \times \{(6 + 12)\}$$

$$= 90 \times 18$$

$$= 1620$$

5. An amount of Rs. 36000 is made from Rs. 25000 in two years. The interest is done compound interest per annum. Find the rate of interest?

- a) 25%
- b) 30%

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c) 20%

d) 24%

Answer: (C)

Given amount =RS .36000

Principal = Rs} .25000

$$\therefore 36000 = 25000 \left[1 + \frac{R}{100} \right]^2$$

$$\Rightarrow \frac{36}{25} = \left[1 + \frac{R}{100} \right]^2$$

$$\Rightarrow 1 + \frac{R}{100} = \frac{6}{5}$$

$$\Rightarrow \frac{R}{100} = \frac{1}{5}$$

$$\Rightarrow R = 20\%$$

6. The area of the rectangle is 300cm^2 and length of diagonal is 25 cm. Find the perimeter of the rectangle?

a) 35 cm

b) 70 cm

c) 25 cm

d) 40 cm

Answer: (B)

$$\text{area} = 300 \text{ cm}^2 = l \times b$$

$$\text{Diagonal} = \sqrt{l^2 + b^2} = 25$$

$$\rightarrow l^2 + b^2 = 625$$

Now

$$(l + b)^2 = l^2 + b^2 + 2lb$$

$$\rightarrow (l + b)^2 = 625 + 600 = 1225$$

$$\rightarrow (l + b) = 35$$

$$\text{Perimeter} = 2(l + b) = 35 \times 2 = 70\text{cm}$$

7. $a:b = 2 : 3$, then $3a+2b : 9a+b = ?$

a) $3/7$

b) $2/7$

c) $3/4$

d) $4/7$

Answer: (D)

$$\text{Given } \frac{a}{b} = \frac{2}{3}$$

$$\text{Now } \frac{3a + 2b}{9a + b} = \frac{(3(2) + 2(3))}{9(2) + 3} = \frac{6 + 6}{18 + 3} = \frac{12}{21} = \frac{4}{7}$$

8. A and B completed a work alone in 40 days and 60 days respectively. A and B together started a work and B leave after some time, then A took 10 days to finish the task. How many days A and B together do the work?

a) 15 days

b) 18 days

c) 20 days

d) 12 days

Answer: (B)

let the total number of work be 120 units

$$\text{Efficiency of A} = \frac{120}{40} = 3 \text{ unit / day}$$

$$\text{Efficiency of B} = \frac{120}{60} = 2 \text{ units / day}$$

Acc to the statement

$$\therefore (3 + 2)x + 3 \times 10 = 120$$

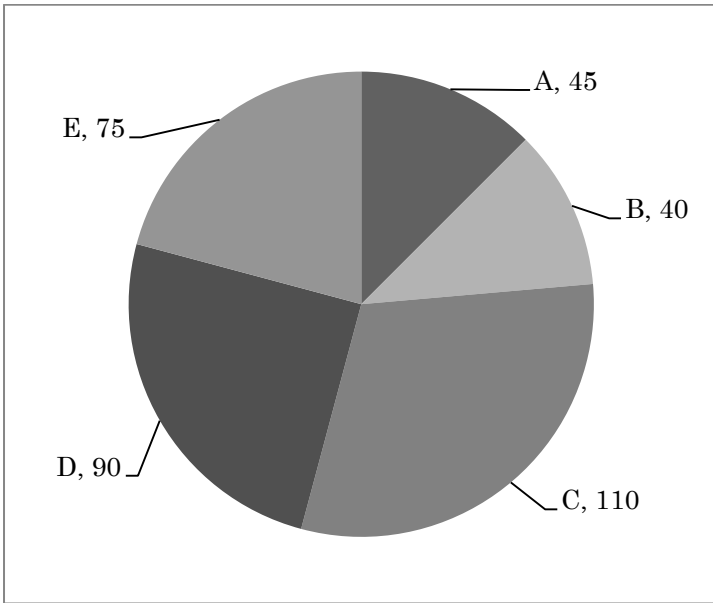
$$\Rightarrow 5x = 90$$

$$\Rightarrow x = 18$$

After 18 days B left or we can say A and B together do that work for 18 days.

Direction (9–13): The given pie chart shows the distribution (in degrees) of cars sold of different models by a company in 2015 – 16.

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9. If the number of cars sold of model D is 40500, then how many more cars of model E are sold than that of A?

- a) 8100
- b) 16200
- c) 24300
- d) 13500

Answer: (D)

Total number of cars sold = $40500 \times (360/90) = 162000$

Difference in numbers of cars of E and A sold = $(75 - 45)/360 \times 162000 = 13500$

10. If the number of cars sold of model D is 40500, then what is the ratio between the number of cars sold of model D and E?

- a) 9 : 5
- b) 6 : 5
- c) 11 : 9
- d) 9 : 7

Answer: (B)

Total number of cars sold

$$= 40500 \times (360/90) = 162000$$

Ratio between the number of cars sold of model D and E = $90/75 = 6:5$

11. If the number of cars sold of model D is 72900, what is the total number of cars sold of all the models together by the company?

- a) 291600
- b) 208100
- c) 162000
- d) 214160

Answer: (A)

Total number of cars sold = $72900 \times (360/90) = 291600$

12. If the number of cars sold of model C is 22000, then what is the difference in the number of cars sold of model A and B?

- a) 800
- b) 1200
- c) 1000
- d) 1500

Answer: (C)

Total number of cars sold = $22000 \times (360/110) = 72000$

Difference in numbers of cars of E and A sold = $(45 - 40)/360 \times 72000 = 1000$

13. If 5% of the total cars sold of model E is 750, then what is the average number of cars sold of all the models?

- a) 15000
- b) 14400
- c) 16800

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d) 14000

Answer: (B)

Total number of model E cars sold = $(750) \times (100/5)$
= 15000

Total number of cars sold = $15000 \times (360/75) =$
72000

Average number of cars sold = $(72000/5) = 14400$

14. Sum of the any two numbers is 19 and their product is 88. Find the difference of the number?

- a) 1
- b) 2
- c) 3
- d) 4

Answer: (C)

$\therefore a + b = 19, ab = 88$

Now $(a + b)^2 = a^2 + b^2 + 2ab$

$\Rightarrow (19)^2 = a^2 + b^2 + 2(88)$

$\Rightarrow 361 = a^2 + b^2 + 176$

$\Rightarrow a^2 + b^2 = 185$

Now $(a - b)^2 = a^2 + b^2 - 2ab$

$\therefore (a - b)^2 = 185 - 176 = 9$

$\Rightarrow (a - b) = 3$

15. If $x^3 + \frac{1}{x^3} = 52$, find $x^4 + \frac{1}{x^4}$

- a) 102
- b) 194
- C) 196
- d) 144

Answer: (B)

Given $x^3 + \frac{1}{x^3} = 52$

Now, $\left(x + \frac{1}{x}\right)^3 = x^3 + \frac{1}{x^3} + 3\left(x + \frac{1}{x}\right)$

$\Rightarrow \left(x + \frac{1}{x}\right)^3 - 3\left(x + \frac{1}{x}\right) = 52$

Let $(x + 1/x) = y$

$\therefore y^3 - 3y - 52 = 0$

$y^3 - 4y^2 + 4y^2 - 16y + 13y - 52 = 0$

$(y - 4)(y^2 + 4y + 13) = 0$

Now $y - 4 = 0, y = 4$ and $y^2 + 4y + 13$ have no real val

$$\left(x + \frac{1}{x}\right) = 4$$

$$\therefore x^2 + \frac{1}{x^2} = 4^2 - 2 = 14$$

$$\therefore x^4 - \frac{1}{x^4} = (14)^2 - 2 = 196 - 2 = 194$$

16. If the ratio of sum of any two number and there difference is 6:1 and smallest number is 20.

Find the largest number?

- a) 25
- b) 27
- c) 28
- d) 32

Answer: (C)

Given

$$\frac{x + y}{x - y} = \frac{6}{1}$$

$$\Rightarrow x + y = 6x - 6y$$

$$\Rightarrow \frac{x}{y} = \frac{7}{5}$$

So $y=20$, therefore largest number = $7 \times 4 = 28$

17. Two taps A and B can fill a tank in 10 hours and 12 hours respectively. If two taps are opened at 10 a.m., then at what time (in p.m.) should the tap A be closed to completely fill the tank at exactly 4 pm.

- a) 2
- b) 1
- c) 3
- d) 1.30

Answer: (C)

Time for which B works = 6 hours

Work done by B = $6/12 = \frac{1}{2}$

Work done by A = $1 - \frac{1}{2} = \frac{1}{2}$

Time taken by A to do $\frac{1}{2}$ of work = $10/2 = 5$ hours

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Time at which A should be closed = $10 + 5 = 15$ hours i.e 3 p.m.

18. Three numbers are in ratio $3 : 5 : 2$, if the product of the number is 10290. Find the largest number ?

- a) 21
- b) 14
- c) 49
- d) 35

Answer: (D)

Let the numbers are $3x, 5x$ and $2x$

$$\therefore 3x \times 2x \times 5x = 10290$$

$$\Rightarrow x^3 = \frac{10290}{30} = 343$$

$$\rightarrow x = 7$$

Largest number is $5x = 5 \times 7 = 35$

19. The difference of two numbers is 26. If the HCF is 26 and LCM is 156. Find the smaller number ?

- a) 52
- b) 78
- c) 56
- d) 26

Answer: (A)

As the HCF is 26, therefore first

Number is $26x$ and second is $26y$

Now difference = 26

$$\therefore 26x - 26y = 26$$

$$\rightarrow x - y = 1$$

$$LCM = 156$$

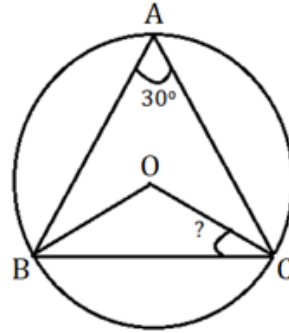
$$\therefore 26xy = 156$$

$$\Rightarrow xy = 6$$

Now by hit and trail $x=3$ and $y=2$

Smaller number = $26 \times 2 = 52$

20. In the given figure circle is circumscribe a triangle. Given that $\angle BAC = 30^\circ$, then find the value of $\angle OCB$, if O is the center of the circle.



- a) 60°
- b) 45°
- c) 30°
- d) 90°

Answer: (A)

as we know $\angle BOC = 2\angle BAC$

$$\therefore \angle BOC = 2 \times 30^\circ = 60^\circ$$

Now in $\triangle BOC$

$$\angle OBC + \angle BCO + \angle BOC = 180^\circ$$

$$2\angle BCO + 60 = 180 [\angle BCO = \angle OBC]$$

$$\angle BCO = 60^\circ$$

21. Find the area of the isosceles triangle whose equal sides are 10cm and base is 8cm ?

- a) $6\sqrt{21}$
- b) $4\sqrt{23}$
- c) $4\sqrt{21}$
- d) $8\sqrt{21}$

Answer: (D)

Semi perimeter of the triangle is

$$\frac{10+10+8}{2} = 14\text{cm}$$

By heron's formula

$$\text{Area} = \sqrt{(14-10)(14-10)(14-8)14}$$

$$= \sqrt{4 \times 4 \times 6 \times 14} = 8\sqrt{21}$$

22. Solve $3\sin^2 45 + 5\cos^2 45 - 2\tan^2 60$.

- a) 2

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b) 3

c) -2

d) 4

Answer: (C)

$$\begin{aligned} &\text{Given } 3\sin^2 45 + 5\cos^2 45 - 2\tan^2 60 \\ &= 3\left(\frac{1}{\sqrt{2}}\right)^2 + 5\left(\frac{1}{\sqrt{2}}\right)^2 - 2(\sqrt{3})^2 = \frac{3}{2} + \frac{5}{2} - 6 \\ &= 4 - 6 = -2 \end{aligned}$$

23. What is the largest four digit number which is a perfect square?

a) 9704

b) 9801

c) 9901

d) 9999

Answer (B)

By options only 9801 is a perfect square.

24. Cost price of an article is RS. 500. If there is a gain of 8% , after the discount of 20%. Find the markup price?

a) Rs. 675

b) RS. 625

c) Rs. 540

d) Rs. 600

Answer: (A)

Selling price of the article

$$= 500 \times \frac{108}{100} = \text{RS. } 540$$

$$\text{Market price} = 540 \times \frac{100}{80} = \text{R. } 675$$

25. In the company, the ratio of the male to female is 4: 7, 100 male and 200 female are gone to another company, then the ratio becomes 7 : 12, the number of female is

a) 1200

b) 800

c) 1400

d) 1300

Answer: (C)

let the number of males are $4x$

Number of female are $7x$

$$\therefore \frac{4x - 100}{7x - 200} = \frac{7}{12}$$

$$\Rightarrow 48x - 1200 = 49x - 1400$$

$$\rightarrow x = 200$$

Number of female are $7 \times 200 = 1400$

26. A person travels 450km at a speed of 90km/h and coming at the speed of 50km/h. Find the average speed.

a) 70km/h

b) 64.28 km/h

c) 50 km/h

d) 75km/h

Answer: (B)

$$\text{time taken at the speed of } 90\text{km/h} = \frac{450}{90} = 5\text{km/h}$$

$$\text{Time taken at the speed of } 50\text{ km/h} = \frac{450}{50} = 9\text{km/h}$$

$$\begin{aligned} \text{Average speed} &= \frac{\text{total distance}}{\text{total time}} \\ &= \frac{450+450}{9+5} = \frac{900}{14} = \frac{450}{7} = 64.28\text{ km/h} \end{aligned}$$

27. If the difference between $\frac{3}{2}$ and $\frac{4}{3}$ of the same number is 12, then the number is ?

a) 132

b) 144

c) 120

d) 96

Answer: (B)

let the number be x .

$$\therefore \frac{3x}{2} - \frac{4x}{3} = 12$$

$$\Rightarrow (9x - 8x) = 12 \times 12$$

$$X = 144$$

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28. There are two pens of price Rs. 99 each. One is sold at 10% gain and other is 10% loss. Find the overall loss or gain

- a) 1% loss
- b) 1% profit
- c) 2% profit
- d) No profit no loss

Answer: (D)

When the pen sold at profit = $99 \times 110/100 = 108.9$

When pen is sold at loss = $99 \times 90/100 = 89.1$

Total cost price = $99 + 99 = 198$

Total sell price = $108.9 + 89.1 = 198$

∴ There is no profit no loss.

29. A person sells a product at Rs. 23100 and makes a profit of 10%. At what amount should he sell to make a loss of 20%?

- a) Rs.14800
- b) Rs. 16800
- c) RS. 21800
- d) Rs. 20800

Answer: (B)

Given SP= Rs. 23100

Profit =10%

CP = $23100 \times 100/110 = \text{Rs.}21000$

Selling price at the loss of 20%

= $21000 \times 80/100 = \text{Rs.}16800$

30. Some amount is gave on the interests 8% for 2 years, 10% for next 4 years and 12% for after 6 years. If after 9 years total simple interest occurred is Rs. 5152. find the principal amount?

- a) 5600

b) 5500

c) 6200

d) 6000

Answer: (A)

let P be the principal amount

Rate of interest is calculated according to the years,

Therefore,

$(2 \times 8\% + 10\% \times 4 + 12\% \times 3)$ of principal = 5152

$\Rightarrow (16\% + 40\% + 36\%)$ of P = 5152

$\Rightarrow 92\%$ of P = 5152

$\Rightarrow P = 5152 \times \frac{100}{92} = 5600$

So, principal amount = Rs.5600

Logical reasoning

Direction (1 - 3): Study the following information carefully and answer the questions given below:

In a class of 40 students, 28 students play football and 20 students play hockey. All students play at least one of the two games.

1. Find the number of students who plays only football?

- a) 28
- b) 20
- c) 12
- d) 8

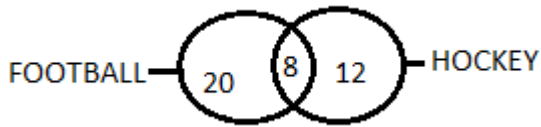
Answer: B)

In a class of 40 students, 28 students play football and 20 students play hockey.

Students who play both the games = $28 + 20 - 40$
= 8

Number of students who plays only football = $28 - 8$
= 20

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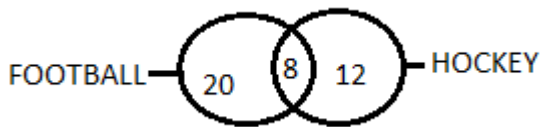
2. Find the number of students who plays only hockey?

- a) 20
- b) 10
- c) 8
- d) 12

Answer: D)

In a class of 40 students, 28 students play football and 20 students play hockey.

$$\text{Students who play both the games} = 28 + 20 - 40 = 8$$



$$\text{Number of students who plays only hockey} = 20 - 8 = 12$$

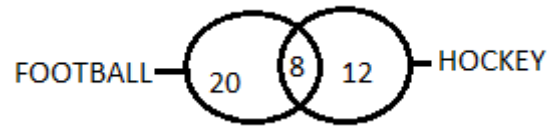
3. Find the number of students who can play both hockey and football?

- a) 20
- b) 12
- c) 8
- d) 40

Answer: C)

In a class of 40 students, 28 students play football and 20 students play hockey.

$$\text{Students who play both the games} = 28 + 20 - 40 = 8$$



4. 'Circle' is related to 'Circumference' in the same way as 'Square' is related to '_____':

- a) Area
- b) Diagonal
- c) Perimeter
- d) Radius

Answer: C)

The length of the outer boundary of a circle is called circumference.

Similarly,

The length of the outer boundary of a square is called perimeter.

5. In a certain code language FREEDOM is written as 3722916, ANT is written as 480. How will RANDOM be written as in the same code language?

- a) 748916
- b) 749816
- c) 784916
- d) 798496

Answer: A)

F	R	E	E	D	O	M
3	7	2	2	9	1	6

A	N	T
4	8	0

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R	A	N	D	O	M
7	4	8	9	1	6

6. Unscramble the letters 'NTOYPCR' to form a meaningful English word and find the fifth letter from the left end of that word.

- a) R
- b) Y
- c) N
- d) T

Answer: D)

NTOYPCR → CRYPTON

Fifth letter from the left end of that word is T.

7. Which of the following words will come at the third place if all the words are arranged in alphabetical order?

- a) Musician
- b) Muscular
- c) Masculine
- d) Metamorphic

Answer: B)

- c) **M**asculine → 1
- d) **M**etamorphic → 2
- b) **M**uscular → 3
- a) **M**usician → 4

8. If your father is called your mother, your mother is called your brother, your brother is called our sister

and your sister is called your father, how will you call your sister?

- a) Sister
- b) Father
- c) Mother
- d) Brother

Answer: B)

Father is the correct answer as your sister is called your father.

Direction (9 – 11):

Study the diagram given below and answer the questions based on it.

Five boys A, B, C, D, and E are sitting in a row and all of them are facing South. C and E are sitting to the right and left of D respectively. B is sitting between E and A.

9. Who among the following is sitting exactly in the middle of the row?

- a) B
- b) E
- c) C
- d) A

Answer: B)

A B **E** C D

10. Who is sitting at the extreme left end?

- a) D
- b) A
- c) B
- d) C

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Answer: A)

A B E C D

11. Who is sitting 2nd to the right of B?

- a) A
- b) E
- c) C
- d) No one

Answer: D)

A B E C D

12. Choose the pair which is related in the same way as the words in the first pair from the given choices.

Include : Exclude :: Glory : ?

- a) Dispose
- b) Honour
- c) Obscurity
- d) Accolades

Answer: C)

Words are antonym of each other.

13. Select the odd one out.

- a) Smell
- b) Laugh
- c) Touch
- d) Sight

Answer: B)

Five sense organs – Smell, Sound, Taste, Sight and Touch.

Laugh is not a sense organ.

14. In this question, two statements are given followed by two conclusions. Choose the Conclusion(s) which best fit(s) logically.

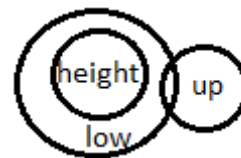
Statements:

- 1. All height are low
- 2. Some up are low

Conclusions:

- I. Some height are up
- II. Some low are height
- a) Only conclusion I follows
- b) Only conclusion II follows
- c) Either conclusion I or II follows
- d) None of the conclusion follows

Answer: B)



- I. Some height are up - False
- II. Some low are height - True

15. Find the missing number in the series.

2, 7, 14, 23, ?, 47

- a) 37
- b) 34
- c) 35
- d) 38

Answer: B)

$$2 + 5 = 7$$

$$7 + 7 = 14$$

$$14 + 9 = 23$$

$$23 + 11 = 34$$

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$34 + 13 = 47$

16. In this question, two statements are given followed by two conclusions. Choose the Conclusion(s) which best fit(s) logically.

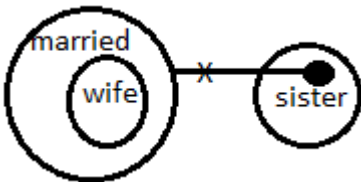
Statements:

- 1) All wife are married
- 2) Some sister are not married

Conclusions:

- I. Some sister are not wife
- II. Some married are not sister
- a) Only conclusion I follows
- b) Only conclusion II follows
- c) Either conclusion I or II follows
- d) None of the conclusion follows

Answer: D)



- I. Some sister are not wife - False
- II. Some married are not sister - False

17. Which signs should be interchanged if the equation below needs to be true?

$2 \div 16 - 2 + 6 \times 1 = 0$

- a) - and ÷
- b) - and +
- c) × and +
- d) × and ÷

Answer: A)

- a) - and ÷

$2 - 16 \div 2 + 6 \times 1 = 0$

$= 2 - 8 + 6$

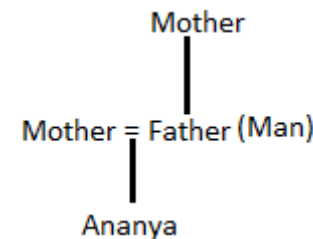
$= 8 - 8$

$= 0$

18. Looking at a photo, Ananya said, "This man is the eldest son of my mother's mother-in-law". How is Ananya's father related to the man in the photo?

- a) Son
- b) Brother-in-law
- c) Father
- d) Himself

Answer: C)



Ananya's father is the man himself.

19. If '+' represents '×', '-' represents '÷', '×' represents '+' and '÷' represents '-', then find the value of the following expression:

$1 \times 2 + 6 - 2 \div 7$

- a) 2
- b) -2
- c) 0
- d) -1

Answer: C)

+	-	×	÷
×	÷	+	-

$1 + 2 \times 6 \div 2 - 7$

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$$= 1 + 6 - 7$$

$$= 0$$

20. In the following question, select the related word from the given alternatives.

Dreams : Oneirology :: ? : Chromatics

- a) Chromosome
- b) Colour
- c) Children
- d) Chewing

Answer: B)

The study of dreams is called Oneirology.

The study of colours is called Chromatics or Colorimetry.

21. Rearrange the jumbled letters to make a meaningful word and then select the one which is different.

- a) TIEGH
- b) EEVNS
- c) FEWI
- d) VIEF

Answer: C)

- a) TIEGH - EIGHT
- b) EEVNS - SEVEN
- c) FEWI - WIFE
- d) VIEF - FIVE

22. If GOING is written as 53785 and LACE is written as 1296, the how is LOGICAL written in that code?

a) 1357921

b) 1359721

c) 1375921

d) 1537921

Answer: A)

G	O	I	N	G
5	3	7	8	5

L	A	C	E
1	2	9	6

L	O	G	I	C	A	L
1	3	5	7	9	2	1

23. In this question, two statements are given followed by two conclusions. Choose the conclusion(s) which best fit(s) logically.

Statement:

1. No country in the world has gained self-reliance.
2. Mechanization has failed completely.

Conclusions:

- I. Becoming self-reliant is impossible.
- II. Human labour is more productive in comparison to machine.

- a) Only conclusion I follows
- b) Only conclusions II follows
- c) Both I and II follow
- d) None follows

Answer: D)

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24. An assertion (A) and a reason (R) are given below.

Assertion (A): Plants convert light energy into chemical energy during photosynthesis process.

Reason (R): The Glucose obtained by plants during Photosynthesis, is used as a energy source by human being.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true, but R is false.
- d) Both A and R are false.

Answer: B)

25. Find the similarity in the following words given below.

Plays, Movies, Documentary, Roadshows.

- a) All can be used to convey social messages.
- b) All are showcased in theatres.
- c) All of them are only in English language.
- d) No similarity.

Answer: A)

26. Find the missing number from the below options.

13	4	18
9	15	32
26	?	64

- a) 8
- b) 30

c) 18

d) 32

Answer: B)

Column 1: $(13 + 9) + |13 - 9| = 26$

Column 2: $(4 + 15) + |4 - 15| = 30$

Column 3: $(18 + 32) + |18 - 32| = 64$

27. An assertion (A) and a reason (R) are given below.

Assertion (A): Agricultural activities are less on mountainous region.

Reason (R): Mountains have less fertile terrain and difficult weather conditions.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true, but R is false.
- d) Both A and R are false.

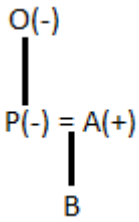
Answer: A)

28. A is father of B. O is mother of P. P is the mother of B. How is O related to B?

- a) Sister
- b) Mother
- c) Grandmother
- d) Granddaughter

Answer: C)

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O is grandmother of B.

29. Find the missing term in the series.

?, HU, FQ, IT, ER

- a) IP
- b) IO
- c) GP
- d) GO

Answer: C)

$G + 1 = H$; $H - 2 = F$; $F + 3 = I$; $I - 4 = E$

$P + 5 = U$; $U - 4 = Q$; $Q + 3 = T$; $T - 2 = R$

30. If PARIS is KZIRH, then AMERICA is

- a) ZNVRIXZ
- b) ZNVIRXZ
- c) ZNVIXRZ
- d) ZNIVRXZ

Answer: B)

Letters are coded by their reverse letter.

General Awareness

1) What is the name of the Uranium mine in Jharkhand, India?

- a) Alampara Mine
- b) Jaduguda Mine
- c) Sonbhadra Mine
- d) Vyasanakere Mine

Answer: B

The Jaduguda Mine is a uranium mine in Jaduguda village in the Purbi Singhbhum district of the Indian state of Jharkhand. It commenced operation in 1967 and was the first uranium mine in India. The deposits at this mine were discovered in 1951.

2) What is another name for the first law of motion?

- a) Law of inertia
- b) Coulomb's Law
- c) Newton's law of universal gravitation
- d) Law of Equipartition of Energy

Answer: A

The property of a body to remain at rest or to remain in motion with constant velocity is called inertia. Newton's first law is often called the law of inertia.

3) How many members are there in IMF?

- a) 188
- b) 190
- c) 175
- d) 185

Answer: B

The International Monetary Fund (IMF) is an organization of 190 countries, working to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

4) Which one of the following day is celebrated on 12 January?

- a) National Youth Day
- b) National Safety Day
- c) National Vaccination Day
- d) National Maritime Day

Answer: A

National Youth Day is celebrated on 12 January on the birthday of Swami Vivekananda. In 1984 the Government of India declared this day as National Youth Day and since from 1985 the event is celebrated in India every year.

5) Who was the eighth Secretary-General of the United Nations?

- a) Kurt Waldheim
- b) Ban Ki-moon
- c) Antonio Guterres
- d) Dag Hammarskjold

Answer: B

Ban Ki-moon is a South Korean politician and diplomat who served as the eighth Secretary-General of the United Nations from January 2007 to December 2016.

6) Which among the following country hosted BRICS Summit 2019?

- a) Brazil
- b) Russia
- c) China
- d) India

Answer: A

The 2019 BRICS summit was the eleventh annual BRICS summit, an international relations conference to be attended by the heads of state or heads of government of the five member states Brazil, Russia, India, China and South Africa. It was hosted by Brazil.

7) Who among the following gave the slogan "Gareebi hatao"?

- a) Vallabhbhai Patel
- b) Indira Gandhi
- c) B. R. Ambedkar
- d) Jawaharlal Nehru

Answer: B

The slogan 'Garibi Hatao' (Remove Poverty) was given by Indira Gandhi in 1971 as her election campaign. The slogan was officially used by the Congress party in 1980 for the five year plan.

8) The International Day of Yoga is celebrated every year on_____.

- a) 18th April
- b) 11th May
- c) 21st June
- d) 10th December

Answer: C

International Yoga Day is celebrated on June 21 across the world. It was observed for the first time in 2015.

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

9) The Asian Development Bank (ADB) is headquartered in_____.

- a) Geneva, Switzerland
- b) Vienna, Austria
- c) Paris, France
- d) Mandaluyong, Philippines

Answer: D

The Asian Development Bank (ADB) is a regional development bank established on 19 December 1966, which is headquartered in the city of Mandaluyong, Metro Manila, Philippines. It has 68 members.

10) Pongal is one of the most important festivals celebrated in_____.

- a) Odisha
- b) Tamil Nadu
- c) Kerala
- d) Andhra Pradesh

Answer: B

Pongal is a multi-day Harvest festival observed by the Tamil community. It is dedicated to the Sun god, the Surya, and corresponds to Makar Sankranti, the harvest festival under many regional names celebrated throughout India.

11) What is the full form of PDF?

- a) Portable document format
- b) Pixel distribution function
- c) Probability density function
- d) Partial Data File

Answer: A

Portable Document Format is a file format developed by Adobe in 1993 to present documents, including text formatting and images, in a manner independent of application software, hardware, and operating systems.

12) Leon Mendonca has become India's 67th chess grandmaster. He belongs to which state?

- a) Rajasthan
- b) Goa
- c) Uttarakhand
- d) Assam

Answer: B

Goa's 14-year-old Leon Mendonca has become India's 67th chess Grandmaster by winning the third and final norm at a tournament in Italy. He is the second GM from the coastal State.

13) Nagarjuna Sagar Dam is built on which river?

- a) Tapi
- b) Kaveri
- c) Narmada
- d) Krishna

Answer: D

Nagarjuna Sagar Dam is a masonry dam across the Krishna River at Nagarjuna Sagar which straddles the border between Guntur district in Andhra Pradesh and Nalgonda district in Telangana. It is also one of the earliest multi-purpose irrigation and hydroelectric projects in India.

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

14) The sukanya samridhi account can be opened with how much minimum balance?

- a) Rs. 250
- b) Rs. 150
- c) Rs. 200
- d) Rs. 500

Answer: A

A Sukanya Samridhi Account can be opened any time after the birth of a girl child till she turns 10, where a person has to deposit a minimum of Rs 250. In subsequent years, a minimum of Rs 250 and a maximum of Rs 1.5 lakh can be deposited during the ongoing financial year.

15) Who was the first Indian to win an Oscar?

- a) Bhanu Athaiya
- b) Ashutosh Gowariker
- c) Deepa Mehta
- d) Ashvin Kumar

Answer: A

Bhanu Athaiya was an Indian costume designer. She was the first Indian to win an Oscar, for costume design for Gandhi in 1982.

16) Round revolution is related to which of the following?

- a) Oilseed Production
- b) Jute Production
- c) Poultry Production
- d) Production of potatoes

Answer: D

Round revolution is the revolution adopted by the Government of India for the increase in production of Potato. This revolution is aimed to make the production doubled or tripled instead of single annual increase.

17) Where is information stored in neurons?

- a) Synapse
- b) axon
- c) dendrites
- d) cell body

Answer: A

A synapse is a structure that permits a neuron to pass an electrical or chemical signal to another neuron or to the target effect or cell. Thus, the information is stored in synapse in neuron.

18) Who among the following was the Indian women representative in the Second Round Table Conference held in 1931?

- a) Indira Gandhi
- b) Sarojini Naidu
- c) Sucheta Kriplani
- d) Usha Mehta

Answer: B

The Second Round Conference was held on September 7, 1931. Gandhiji represented Indian National Congress and Sarojini Naidu represented Indian women.

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

19) Who among the following won the first Nobel prize?

- a) Henry Dunant
- b) Charles Albert Gobat
- c) William Randal Cremer
- d) Elie Ducommun

Answer: A

The first Nobel Prizes were awarded in 1901. The Peace Prize for that year was shared between the Frenchman Frederic Passy and the Swiss Jean Henry Dunant.

20) What is the chemical formula for slaked lime?

- a) $Mg(OH)_2$
- b) $(NH_4)_2SO_4$
- c) $Ca(OH)_2$
- d) Na_2S

Answer: C

Calcium hydroxide traditionally called slaked lime is an inorganic compound with the chemical formula $Ca(OH)_2$. It is a colorless crystal or white powder and is produced when quicklime (calcium oxide) is mixed, or slaked with water.

21) What layer is formed in the stomach to protect it from HCL?

- a) Subserosa
- b) Submucosa
- c) Muscularis
- d) Mucus

Answer: D

The stomach wall has a gastric gland which secretes gastric juice a mixture of pepsin, HCl and mucous.

The stomach wall is always covered by a layer of thick mucus that serves two purposes: the lubrication of food masses in order to facilitate movement within the stomach and the formation of a protective layer over the lining epithelium of the stomach cavity from the acidic environment.

22) What of the following acid is formed in the stomach?

- a) Hydrochloric acid
- b) Nitric acid
- c) Sulphuric acid
- d) Hydrobromic acid

Answer: A

Gastric acid, is a digestive fluid formed within the stomach lining. The main constituent of gastric acid is hydrochloric acid produced by parietal cells in the gastric glands in the stomach.

23) Which Indian got the Nobel prize in 1913?

- a) Rabindranath Tagore
- b) Subrahmanyam Chandrasekhar
- c) Sir Chandrasekhara Venkata Raman
- d) Mother Teresa

Answer: A

Rabindranth Tagore brought glory to the country and he became the first Indian to win the Nobel Prize for the country. He was accorded the honour in 1913 in the field of literature.

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

24) Who is the Brand Ambassador of La Liga?

- a) Rohit Sharma
- b) Virat Kohli
- c) Sachin Tendulkar
- d) Mahendra Singh Dhoni

Answer: A

La Liga, the top tier of Spanish club football, announced cricketer Rohit Sharma as its brand ambassador in India. He becomes the first non-footballer in the league's 90-year-old history to endorse the brand.

25) Who among the following is the governor of Maharashtra?

- a) Biswa Bhusan Harichandan
- b) Jagdish Mukhi
- c) Phagu Chauhan
- d) Bhagat Singh Koshyari

Answer: D

Bhagat Singh Koshyari is an Indian politician serving as the Governor of Maharashtra and the Governor of Goa. He served as National Vice-President of BJP and party's 1st State president for Uttarakhand.

26) Which organization has been awarded the 2020 Nobel Peace Prize?

- a) International Renewable Energy Agency
- b) International Maritime Organisation
- c) International Civil Aviation Organization
- d) World Food Program

Answer: D

The Nobel Peace Prize 2020 was awarded to World Food Programme (WFP) for its efforts to combat hunger.

27) Which one of the following is the Oldest Dam of India?

- a) Hirakud dam
- b) Tehri Dam
- c) Bhakra Nangal Dam
- d) Kallanai Dam

Answer: D

Kallanai also known as the Grand Anicut is an ancient dam. It is built across the Kaveri river flowing from Tiruchirapalli District to Thanjavur district. The dam was originally constructed during the reign of Chola king Karikalan.

28) What is the full form of FTP?

- a) File Transfer Protocol
- b) Fine Transfer Protocol
- c) File Transfer Process
- d) File Transfer Program

Answer: A

The File Transfer Protocol is a standard network protocol used for the transfer of computer files between a client and server on a computer network.

29) The World Blood Donor Day is observed on_____.

- a) 14th June

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

- b) 18th March
- c) 21st August
- d) 10th April

Answer: A

World Blood Donor Day is observed on 14 June. The event serves to raise awareness of the need for safe blood and blood products and to thank blood donors for their life-saving gifts of blood.

30) Who among the following started the Khilafat Movement in the year 1919?

- a) Mahatma Gandhi
- b) Maulana Mohammad Ali Jauhar
- c) Maulana Shaukat Ali
- d) Both b and c

Answer: D

The Khilafat Movement (1919-20) was essentially a movement to express Muslim support for the Caliph of Turkey against the allied powers. This movement was started by Maulana Mohammad Ali Jauhar and his brother Maulana Shaukat Ali in India by joining hands with some other Muslim leaders.

31) Brihadeeswara Temple is located in which Indian state?

- a) Tamil Nadu
- b) Odisha
- c) Andhra Pradesh
- d) Rajasthan

Answer: A

Brihadishvara Temple, is a Hindu temple dedicated to Shiva located in South bank of Kaveri river in Thanjavur, Tamil Nadu, India. It is one of the largest South Indian temples and an exemplary example of a fully realized Dravidian architecture.

32) Who among the following is the Chief Minister of Goa?

- a) Biplab Kumar Deb
- b) Trivendra Singh Rawat
- c) Yogi Aditya Nath
- d) Pramod Sawant

Answer: D

Pramod Sawant is an Indian politician who is the 11th and current Chief Minister of Goa. He represents the Sanquelim constituency in the Goa Legislative Assembly and is a member of the Bharatiya Janata Party.

33) Fort William, built during the early years of the Bengal Presidency of British India is in_____.

- a) Jaipur
- b) Gandhinagar
- c) Kolkata
- d) Nagpur

Answer: C

Fort William is a fort in Hastings, Kolkata. It was built during the early years of the Bengal Presidency of British India. It sits on the eastern banks of the Hooghly River, the major distributary of the River Ganges.

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

34) Name the first State to be formed on linguistic basis in India?

- a) Gujarat
- b) Odisha
- c) Andhra Pradesh
- d) Uttar Pradesh

Answer: C

The first state formed on the linguistic basis is Andhra Pradesh. The state of Andhra Pradesh was formed on October 1, 1953. It was bifurcated from Tamil Nadu.

35) Who is the author of the book 'Shades of Saffron'?

- a) Advaita Kala
- b) Vikram Balagopal
- c) Sarbpreet Singh
- d) Saba Naqvi

Answer: D

Saba Naqvi who is a senior journalist, is the author of Shades of Saffron.

36) Bank of Baroda merged with which of the following bank?

- a) Dena Bank
- b) Vijaya Bank
- c) Union Bank of India
- d) Both a and b

Answer: D

The government of India announced the merger of Bank of Baroda, Vijaya Bank and Dena Bank on September 17, 2018 to create the country's third largest lender and they merged on April 1, 2019.

37) Which enzyme is secreted by the human stomach?

- a) Pepsin
- b) Amylase
- c) DNA polymerase
- d) Acetylcholinesterase

Answer: A

Pepsin is an endopeptidase that breaks down proteins into smaller peptides. It is produced in the chief cells of the stomach lining and is one of the main digestive enzymes in the digestive systems of humans and many other animals, where it helps digest the proteins in food.

38) Where did the first Portuguese factory established in India?

- a) Calicut
- b) Goa
- c) Daman and Diu
- d) Cochin

Answer: A

The Portuguese explorer, Pedro Alvarez Cabral established the first European (Portuguese) factory at Calicut, India. He was known to discover Brazil on his way to India in 1500 AD.

RRB NTPC Memory Based Model Paper Based on Jan 05 Exam

39) Where is the Headquarters of National Centre for Polar and Ocean Research?

- a) Nagpur, Maharashtra
- b) Dehradun, Uttarakhand
- c) Gangtok, Sikkim
- d) Vasco da Gama, Goa

Answer: D

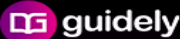
The National Centre for Polar and Ocean Research, is an Indian research and development institution, situated in Vasco da Gama, Goa. It was established on 25 May 1998, with Dr. Prem Chand Pandey as its founding director.

40) How much maximum amount can be deposited in the Sukanya Samridhi account?


- a) Rs. 1.5 lakh
- b) Rs. 1.2 lakh
- c) Rs. 2.5 lakh
- d) Rs. 2 lakh

Answer: A

A Sukanya Samridhi Account can be opened any time after the birth of a girl child till she turns 10, where a person has to deposit a minimum of Rs 250. In subsequent years, a minimum of Rs 250 and a maximum of Rs 1.5 lakh can be deposited during the ongoing financial year.



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