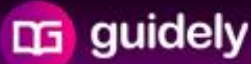


## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam



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#### Logical Reasoning

1. Find the next term in the given series.

PON, RQP, TSR, VUT, ?

- a) XWV
- b) XVW
- c) XYV
- d) XYY

Answer: A

$P + 2 = R; R + 2 = T; T + 2 = V; V + 2 = X$

$O + 2 = Q; Q + 2 = S; S + 2 = U; U + 2 = W$

$N + 2 = P; P + 2 = R; R + 2 = T; T + 2 = V$

2. Select the odd one out.

- a) 56 - 224
- b) 69 - 276
- c) 14 - 96
- d) 73 - 292

Answer: C

a)  $56 - 224 \rightarrow 56 \times 4 = 224$

b)  $69 - 276 \rightarrow 69 \times 4 = 276$

c)  $14 - 96 \rightarrow 14 \times 4 = 56 \neq 96$

d)  $73 - 292 \rightarrow 73 \times 4 = 292$

3. Complete the analogy.

ADGJ : MPSV :: ? : NQTW

- a) YNEH
- b) YENH
- c) ZFCI
- d) ZCFI

Answer: D

$A + 12 = M$        $N + 12 = Z$

$D + 12 = P$        $Q + 12 = C$

$G + 12 = S$        $T + 12 = F$

$J + 12 = V$        $W + 12 = I$

4. In a certain code language, '256' means 'you are good', '637' means 'we are bad', '350' means 'good are bad'.

Find the code for 'bad'.

- a) 3
- b) 5
- c) 6
- d) 7

Answer: A

'256' means 'you are good'

'637' means 'we are **bad**',

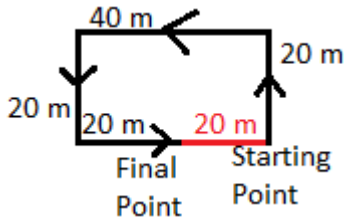
'356' means 'good are **bad**'

5. Deepak walks 20 m in north direction. Then he turns to his left and walks 40 m, again he turns left and walks 20 m. After this, he turns right and walks 20 m. How far is he from his starting point?

- a) 0 m
- b) 40 m
- c) 20 m
- d) 10 m

Answer: C

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6. If '+' means 'x', 'x' means '÷', '÷' means '-' and '-' means '+'. Find the value of the expression given below.

$$15 + 16 \times 16 \div 15$$

- a) 13
- b) 0
- c) 20
- d) 15

Answer: B

+	x	÷	-
x	÷	-	+

$$15 \times 16 \div 16 - 15$$

$$= 15 \times 1 - 15$$

$$= 0$$

7. Ten years ago a mother's age was three times the age of her son. Ten years later, mother's age will be twice the age of the son. Find the present age of son.

- a) 30
- b) 20
- c) 10
- d) 40

Answer: A

Ten years ago a mother's age was three times the age of her son.

$$\text{Ratio of age of mother and son} = 3 : 1$$

So, present age of mother is  $3x + 10$  and son be  $x + 10$ .

Ten years later, mother's age will be twice the age of the son.

Age of mother after 10 years will be  $3x + 20$  and age of son will be  $x + 20$ .

According to question:

$$3x + 20 = 2(x + 20)$$

$$\Rightarrow 3x + 20 = 2x + 40$$

$$\Rightarrow 3x - 2x = 40 - 20$$

$$\Rightarrow x = 20$$

Present age of son is  $x + 10$

$$= 20 + 10$$

$$= 30$$

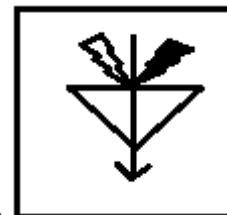
8. Select the mirror image of the figure from the given alternatives when the mirror is placed to the right side of the figure.



a)



b)



c)

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d)

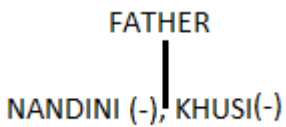
Answer: C



9. Nandini is sister of Khushi. What is Nandini's only sister's father's relation to Khushi?

- a) Father
- b) Son
- c) Brother
- d) Uncle

Answer: A



10. Given below is a statement followed by assumptions I and II. You have to decide which assumption is inherent in the statement.

**Statement:**

A hotel advertisement describes: "Amitabh Bachchan is also now a fan of Mandarin Oriental Hotel".

**Assumption:**

- I. Mandarin Oriental Hotel is an expensive hotel.
- II. Amitabh Bachchan is the owner of Mandarin Oriental Hotel.

- a) Only I is inherent.

- b) Only II is inherent.
- c) Both I and II are inherent.
- d) Neither I nor II is inherent.

Answer: D

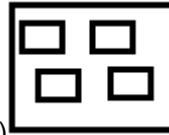
11. Select the odd one out.



a)



b)



c)



d)

Answer: B

The number of small figures inside every figure is equal to the number of sides of the figure.

But option b does not follow the same pattern.

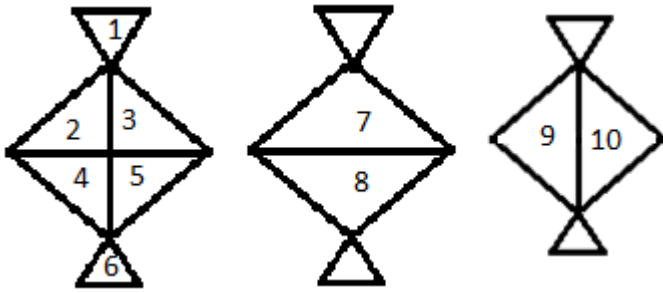
12. Find the number of triangles in the figure given below.



- a) 9
- b) 10
- c) 11
- d) 12

Answer: B

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13. A sum of Rs. 110 is in the form of Rs. 2, Re. 1 and 50 paise in the ratio 1 : 2 : 3. How many coins of Re. 1 are there?

- a) 20
- b) 50
- c) 30
- d) 40

Answer: D

According to question:

$$(2 \times 1 + 1 \times 2 + 0.5 \times 3)x = 110$$

$$\Rightarrow (2 + 2 + 1.5)x = 110$$

$$\Rightarrow 5.5x = 110$$

$$\Rightarrow x = 110 \div 5.5$$

$$\Rightarrow x = 20$$

$$\text{Re. 1 coins are } (1 \times 2)x$$

$$= 2 \times 20$$

$$= 40$$

14. What will be the next term in the series?

6C, 10F, 14I, 18L, ?

- a) 22O
- b) 22P
- c) 20R
- d) 20O

Answer: A

$$6 + 4 = 10; 10 + 4 = 14; 14 + 4 = 18; 18 + 4 = 22$$

$$C + 3 = F; F + 3 = I; I + 3 = L; L + 3 = O$$

15. Given below is a statement followed by assumptions I and II. You have to decide which assumption is inherent in the statement.

**Statement:**

Cellular devices are prohibited in the examination hall.

**Assumption:**

- I. Cellular devices will cause disturbance during the exam.
- II. Turning off cellular devices will help the invigilators during the exam.

- a) Only I is inherent.
- b) Only II is inherent.
- c) Both I and II are inherent.
- d) Neither I nor II is inherent.

Answer: A

16. The statements below are followed by two conclusions labelled I and II. Assuming that the information in the statements is true, even if it appears to be at variance with generally established facts, decide which conclusion(s) logically and definitely follow(s) from the information given in the statements.

**Statements:**

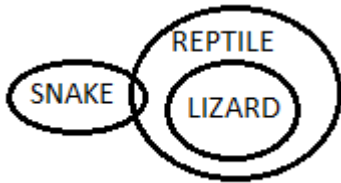
- I. Some reptiles are snake.
- II. All lizards are reptile.

**Conclusions:**

- I. Some lizard is snake
  - II. Some lizard is not snake
- a) Only conclusion I follows
  - b) Either conclusion I or II follows
  - c) Both conclusions I and II follow
  - d) Only conclusion II follows

Answer: B

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I. Some lizard is snake - False

II. Some lizard is not snake - False

But I and II forms a complementary pair.

So, either conclusion I or II follows.

17. In a group of 100 students, each student studies 8 subjects and each subject is studied by 10 students. Find the number of subjects.

- a) Almost 30
- b) Perhaps 50
- c) Atleast 90
- d) Definitely 80

Answer: D

Every student studies 8 subjects.

So, 100 students studies  $8 \times 100$  subjects.

Every subject is studied by 10 students.

So, number of subjects =  $800 \div 10 = 80$

18. In this question, a statement is given followed by two conclusions. Choose the conclusion(s) which best fit(s) logically.

**Statement:**

Our office is located on the 9<sup>th</sup> floor. If there are more than two storeys in a building then there should be a lift in it.

**Conclusions:**

I. From first to last storey, it is possible to reach by lift.

II. There is no lift in the 7<sup>th</sup> storey.

- a) Only conclusion I follows
- b) Both conclusions I and II follow
- c) Only conclusion II follows

d) Neither conclusion I nor II follows

Answer: A

19. Raja needs to score 40% to pass an exam. If he scored 210 marks and still failed by 70 marks, then find the total marks of the exam?

- a) 800
- b) 280
- c) 700
- d) 770

Answer: C

According to question:

$$\frac{40x}{100} = 210 + 70$$

$$\Rightarrow 40x = 28000$$

$$\Rightarrow x = 28000 \div 40$$

$$\Rightarrow x = 700$$

20. A series is given below. The 6<sup>th</sup> term to the left of the 15<sup>th</sup> term from the left is \_\_\_\_.

3 R % 6 \$ ) ; F P R \$ # W @ 9 ! O \* + Y - 4

- a) 9
- b) ;
- c) There is no such term
- d) None of the above

Answer: D

15<sup>th</sup> term from the left is 9.

3 R % 6 \$ ) ; F P R \$ # W @ 9 ! O \* + Y - 4

6<sup>th</sup> term to the left 9 is P.

3 R % 6 \$ ) ; F P R \$ # W @ 9 ! O \* + Y - 4

None of the above is the answer.

21. The statements below are followed by two conclusions labelled I and II. Assuming that the information in the statements is true, even if it appears to be at variance with

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generally established facts, decide which conclusion(s) logically and definitely follow(s) from the information given in the statements.

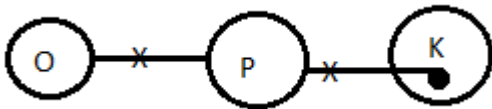
**Statements:**

- I. No O is P
- II. Some K is not P

**Conclusions:**

- I. Some P is not O
  - II. Some P is not K
- a) Only conclusion I follows
  - b) Neither conclusion I nor II follows
  - c) Both conclusions I and II follow
  - d) Only conclusion II follows

Answer: A



- I. Some P is not O - True
- II. Some P is not K - False

22. Select the related word from the given alternatives.

Sugar : Tea :: Car : ?

- a) Petrol
- b) Driver
- c) Rickshaw
- d) Vehicle

Answer: A

Sugar and Tea are complementary goods.

Similarly,

Car and Petrol are complementary goods.

23. Find the similarity in the following.

Lal Bahadur Shastri, BR Ambedkar, Sardar Vallabbhai Patel

- a) All of them are winners of India's 3<sup>rd</sup> highest Civilian award
- b) All of them were rewarded Bharat Ratna posthumously
- c) All of them were awarded Bharat Ratna in 1966
- d) None of the above

Answer: B

24. Arrange the following words in a logical and meaningful order.

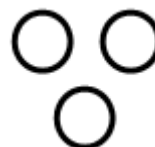
- 1. Plant
  - 2. Seed
  - 3. Fruit
  - 4. Embryo
  - 5. Flower
  - 6. Germination
- a) 2, 6, 4, 1, 5, 3
  - b) 2, 4, 6, 5, 1, 3
  - c) 2, 4, 6, 1, 5, 3
  - d) 2, 4, 1, 6, 5, 3

Answer: C

- 2. Seed
- 4. Embryo
- 6. Germination
- 1. Plant
- 5. Flower
- 3. Fruit

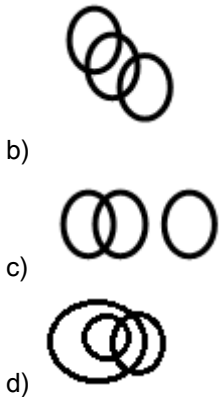
25. Identify the diagram that best represents the relationship among the given classes.

Wire, Copper, Metal



a)

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b)

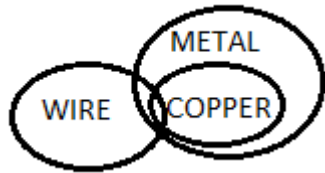


c)



d)

Answer: D



26. Select the correct option from the given alternatives that will complete the pattern in the figure given below.



a)



b)



c)



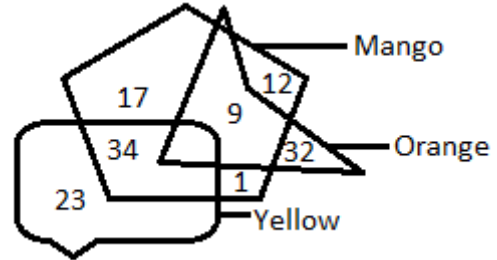
d)



Answer: A



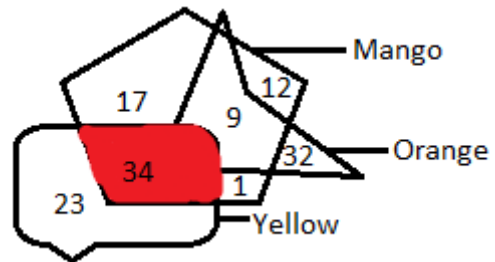
Directions (27 – 29): Study the diagram and answer the questions based on it.



27. How many mangoes are yellow?

- a) 35
- b) 34
- c) 0
- d) 23

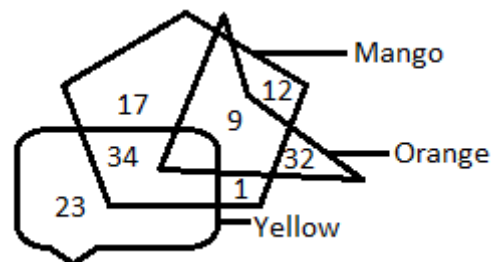
Answer: B



28. How many oranges are yellow but not mango?

- a) 0
- b) 1
- c) 9
- d) 17

Answer: A



29. How many oranges are neither mango nor yellow?

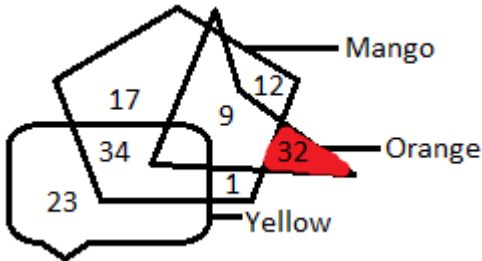
- a) 33
- b) 43

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c) 44

d) 32

Answer: D



30. Select the term whose difference follows the pattern

$2^2, 1^3, 4^2$

a) ZVWE

b) KGFT

c) RNMX

d) PLMD

Answer: C

$$R - 4 = N; N - 1 = M; M - 16 = X$$

**Mathematics**

1. Solve:  $\sqrt{132} + \sqrt{132} + \sqrt{132} + \dots \infty$

a) 10

b) 11

c) 12

d) 13

Answer: C

$$\sqrt{132} + \sqrt{132} + \sqrt{132} + \dots \infty$$

$$= 132 = 12 \times 11$$

$$\sqrt{132} + \sqrt{132} + \sqrt{132} + \dots \infty = 11 + 1 = 12$$

2. In  $\Delta PQR$ , the side QR is extended to S such that RS = PR. If  $\angle QPS = 110^\circ$  and  $\angle PRQ = 70^\circ$ , then find the value of  $\angle PQR$ .

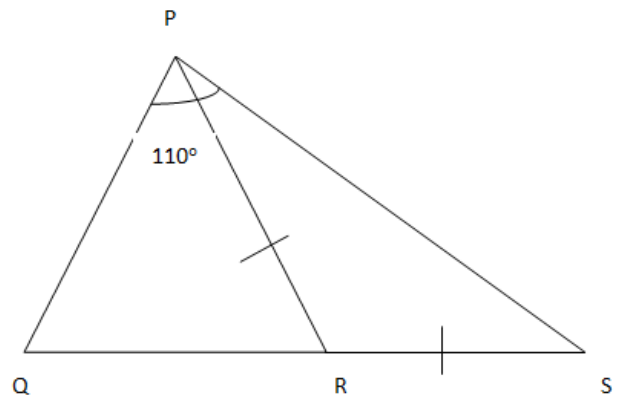
a)  $45^\circ$

b)  $40^\circ$

c)  $50^\circ$

d)  $35^\circ$

Answer: D



Given,  $\angle PRQ = 70^\circ$ , then,  $\angle PRS = 110^\circ$

It means,  $\angle RPS = \angle RSP = 35^\circ$

$$\angle PRQ = 110^\circ - 35^\circ = 75^\circ$$

$$\angle PQR = 180^\circ - 75^\circ - 70^\circ = 35^\circ$$

3. Find the HCF of  $(3^{45} - 1)$  and  $(3^{35} - 1)$ .

a) 240

b) 241

c) 243

d) 242

Answer: D

$$\text{HCF} = (3^{45} - 1) \& (3^{35} - 1)$$

Take HCF of 45 & 35, which is equal to 5

$$\text{So, } (3^5 - 1) = (243 - 1) = 242$$

4. If  $r \sin \theta = 7/2$ ,  $r \cos \theta = 7\sqrt{3}/2$ , then find the value of r.

a)  $\pm 3$

b)  $\pm 2$

c)  $\pm 6$

d)  $\pm 7$

Answer: D

$$r \sin \theta = 7/2 \dots (i)$$

On squaring both the sides of equ (i) we get,

$$r^2 \sin^2 \theta = (7/2)^2$$

$$r^2 \sin^2 \theta = 49/4 \dots (ii)$$

$$\text{Also, } r \cos \theta = 7\sqrt{3}/2 \dots (iii)$$

On squaring both the sides of equ (iii) we get,



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$$r^2 \cos^2 \theta = (7\sqrt{3}/2)^2$$

$$r^2 \cos^2 \theta = 49 \times 3/4$$

$$r^2 \cos^2 \theta = 147/4 \dots (iv)$$

On adding equ (iii) and (iv) we get,

$$r^2 \sin^2 \theta + r^2 \cos^2 \theta = 49/4 + 147/4$$

$$r^2 \sin^2 \theta + r^2 \cos^2 \theta = 196/4$$

$$r^2 (\sin^2 \theta + \cos^2 \theta) = 196/4$$

$$r^2 \times 1 = 196/4$$

$$r^2 = 196/4$$

$$r = \sqrt{196/4}$$

$$r = 14/2$$

$$r = \pm 7$$

5. The numerator of fraction has been increased by 50% and the denominator by 80%, fraction becomes 5/6. Find the original fraction.

a)  $x/y = 1$

b)  $x/y = 2$

c)  $x/y = 3$

d)  $x/y = 4$

Answer: A

Let the numerator be x and denominator be y

According to the question,

$$1.5x / 1.8y = 5/6$$

$$x/y = 1/1 = 1$$

6. If  $\tan \theta = 8/15$ , then find the value of  $\sin \theta + \cos \theta$ .

a)  $23/17$

b)  $8/17$

c)  $15/17$

d)  $7/17$

Answer: A

$$\tan \theta = 8/15 = \text{Perpendicular/Base}$$

By Using Pythagoras Theorem,

$$\text{Hypotenuse}^2 = \text{Perpendicular}^2 + \text{Base}^2$$

$$\text{Hypotenuse}^2 = 8^2 + 15^2$$

$$\text{Hypotenuse}^2 = 64 + 225$$

$$\text{Hypotenuse}^2 = 289$$

$$\text{Hypotenuse} = \sqrt{289}$$

$$\text{Hypotenuse} = 17$$

$$\sin \theta = \text{Perpendicular/ Hypotenuse} = 8/17$$

$$\cos \theta = \text{Base/ Hypotenuse} = 15/17$$

$$\sin \theta + \cos \theta = 8/17 + 15/17 = 23/17$$

7. The difference between compound interest and simple interest on Rs. 15000 for 2 years is Rs. 24. Find the rate of interest.

a) 8 %

b) 5 %

c) 4 %

d) 10 %

Answer: C

$$CI - SI \text{ for 2 years} = PR^2 / (100)^2$$

$$24 = 15,000 \times R^2 / (100)^2$$

$$24 = 15,000 \times R^2 / 10000$$

$$24 = 15 \times R^2 / 10$$

$$24 \times 10 / 15 = R^2$$

$$16 = R^2$$

$$\text{Rate} = 4\%$$

8. The perimeter of equilateral triangle ABC is 24 cm. Find the area of the equilateral triangle?

a)  $9\sqrt{3} \text{ cm}^2$

b)  $12\sqrt{3} \text{ cm}^2$

c)  $16\sqrt{3} \text{ cm}^2$

d)  $10\sqrt{3} \text{ cm}^2$

Answer: C

$$\text{Perimeter of equilateral triangle} = 24 \text{ cm}$$

$$3a = 24$$

$$a = 8 \text{ cm}$$

$$\text{Area of equilateral triangle} = \sqrt{3}/4 \times a^2$$

$$= \sqrt{3}/4 \times 8^2$$

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$$= \sqrt{3/4} \times 64$$

$$= 16 \sqrt{3} \text{ cm}^2$$

9. If  $\sqrt{45} + \sqrt{125} = 17.88$ , then find the value of  $\sqrt{180} + \sqrt{80}$ .

- a) 21
- b) 21.36
- c) 22.35
- d) 22

Answer: C

$$\sqrt{45} + \sqrt{125} = 17.88$$

$$\sqrt{9 \times 5} + \sqrt{5 \times 5 \times 5} = 17.88$$

$$3\sqrt{5} + 5\sqrt{5} = 17.88$$

$$8\sqrt{5} = 17.88$$

$$\sqrt{5} = 17.88/8$$

$$\sqrt{5} = 2.235$$

$$\text{Then, } \sqrt{180} + \sqrt{80}$$

$$= \sqrt{2 \times 2 \times 9 \times 5} + \sqrt{2 \times 2 \times 2 \times 2 \times 5}$$

$$= 6\sqrt{5} + 4\sqrt{5}$$

$$= 10\sqrt{5}$$

$$= 10 \times 2.235$$

$$= 22.35$$

10. Solve:  $\sqrt{5} + \sqrt{5} + \sqrt{5} + \dots \infty$ .

- a)  $\sqrt{21} + \frac{1}{2}$
- b)  $\sqrt{21} - \frac{1}{2}$
- c)  $\sqrt{25} + \frac{1}{2}$
- d)  $\sqrt{25} - \frac{1}{2}$

Answer: A

$$\sqrt{5} + \sqrt{5} + \sqrt{5} + \dots \infty$$

$$= \sqrt{4a + 1} + \frac{1}{2} = \sqrt{4 \times 5 + 1} + \frac{1}{2} = \sqrt{21} + \frac{1}{2}$$

11. Solve:  $2.1221 - 3.1331 + 4.1441$ .

- a) 9.3993
- b) 3.1331
- c) 6.2662
- d) 2.653

Answer: B

$$2.1221 - 3.1331 + 4.1441$$

$$= -1.0110 + 4.1441$$

$$= 3.1331$$

12. The cost price of 19 articles is equal to selling price of 16 articles. Find the profit percent of the article.

- a) 18.75%
- b) 17.75%
- c) 16.75%
- d) 15.75%

Answer: A

According to the question,

$$CP \times 19 = SP \times 16$$

$$SP/CP = 19/16$$

$$\text{Profit\%} = (SP - CP)/CP \times 100$$

$$= (SP/CP - 1) \times 100$$

$$= (19/16 - 1) \times 100$$

$$= (3/16) \times 100$$

$$= 300/16$$

$$= 18.75\%$$

13. A number is increased by 20% and then decreased by 10%. Find the net percentage change.

- a) 8% increase
- b) 8% decrease
- c) 5% increase
- d) 5% decrease

Answer: A

$$\text{Net percentage change} = 20 - 10 - 20 \times 10/100 = 10 - 2 = 8\%$$

14. What should be subtracted from 63535 to get perfect square?

- a) 31
- b) 32
- c) 33

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d) 34

Answer: A

$$\Rightarrow 63535 - 31 = 63504$$

$$\sqrt{63504} = 252$$

15. Solve:  $\sqrt{5} - \sqrt{5} + \sqrt{5} - \sqrt{5} + \dots \infty$ .

a)  $\sqrt{19} + \frac{1}{2}$

b)  $\sqrt{19} - \frac{1}{2}$

c)  $\sqrt{17} - \frac{1}{2}$

d)  $\sqrt{17} + \frac{1}{2}$

Answer: C

$$\sqrt{5} - \sqrt{5} + \sqrt{5} - \sqrt{5} + \dots \infty$$

$$= \sqrt{4a} + 1 - \frac{1}{2} = \sqrt{4} \times 5 - 3 - \frac{1}{2}$$

$$= \sqrt{20} - 3 - \frac{1}{2} = \sqrt{17} - \frac{1}{2}$$

16. A can complete a work in 40 days, A and B can complete the work in 30 days. Find how many days taken by B to complete the work?

a) 70 days

b) 20 days

c) 120 days

d) 10 days

Answer: C

$$A's \text{ one day work} = \frac{1}{40}$$

$$(A + B)'s \text{ one day work} = \frac{1}{30}$$

$$B's \text{ one day work} = \frac{1}{30} - \frac{1}{40}$$

$$= \frac{(4 - 3)}{120}$$

$$= \frac{1}{120}$$

No. of days B take to complete the work = 120 days.

17. Solve:  $45 - [38 - (80 \div 4 - (8 - 12 \div 3) \div 4)]$

a) 45

b) 27

c) 26

d) 28

Answer: C

$$\Rightarrow 45 - [38 - (80 \div 4 - (8 - 12 \div 3) \div 4)]$$

$$= 45 - [38 - (80 \div 4 - (8 - 4) \div 4)]$$

$$= 45 - [38 - (80 \div 4 - 4 \div 4)]$$

$$= 45 - [38 - (20 - 1)]$$

$$= 45 - 38 - 19$$

$$= 45 - 19$$

$$= 26$$

18. Solve:  $100 \times 10 - 100 + 2000 \div 100$ .

a) 29

b) 920

c) 980

d) 1000

Answer: B

$$100 \times 10 - 100 + 2000 \div 100$$

$$= 100 \times 10 - 100 + 20$$

$$= 1000 - 100 + 20$$

$$= 1000 - 80$$

$$= 920$$

19. Which of the following is divisible by 3, 7, 9 and 11?

a) 2645

b) 4158

c) 3791

d) 1188

Answer: B

$$3 \times 7 \times 9 \times 11 = 2079$$

$$2079 \times 2 = 4158$$

4158 is divisible by 3, 7, 9, 11.

20. If the standard deviation of the population is 9, what will be the variance of the population?

a) 56

b) 77

c) 39

d) 81

Answer: D

Standard deviation of population = 9

## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

Population variance = (Standard deviation)<sup>2</sup> = (9)<sup>2</sup> = 81

21. X's income is 20% more than that of Y. What percent is Y's income less than X?

- a) 83 (1/3) %
- b) 16 (2/3) %
- c) 83 (2/3) %
- d) 16 (1/3) %

Answer: B

Let y be 100

Then, x = 120

Percent =  $20/120 \times 100$

=  $50/3 = 16(2/3)$  %

22. A : B : C = 2 : 3 : 4. Find A/B : B/C : C/A is equal to.

- a) 8 : 9 : 16
- b) 8 : 9 : 12
- c) 8 : 9 : 24
- d) 4 : 9 : 16

Answer: C

A : B : C = 2 : 3 : 4

A = 2x, B = 3x, C = 4x

$2/3 : 3/4 : 4/2$

8 : 9 : 24

23. The difference between the simple interest and compound interest on a certain sum of money at 5% rate of interest per annum for 2 years is Rs. 15. The sum is.

- a) Rs. 6500
- b) Rs. 5500
- c) Rs. 6000
- d) Rs. 7000

Answer: C

CI - SI for 2 years =  $P(R/100)^2$

15 =  $P(5/100)^2$

15 =  $P(25/10000)$

15 =  $P \times (1/400)$

P = 15 × 400

P = 6000

24. Two numbers are respectively 30% and 40% less than a third number, then what percent is the first number of the second?

- a) 110.1%
- b) 119.9%
- c) 116.66%
- d) 101.2%

Answer: C

Let 3<sup>rd</sup> number be 100

Then 1<sup>st</sup> number = 70

2<sup>nd</sup> number = 60

Percent =  $70/60 \times 100$

=  $350/6$

= 116.66%

25. If  $15 \div 3 + 2 \times 4 - 2 = x + 1$ , then find the value of x.

- a) 9
- b) 10
- c) 11
- d) 12

Answer: B

$15 \div 3 + 2 \times 4 - 2 = x + 1$

$5 + 8 - 2 = x + 1$

$11 = x + 1$

x = 10

26. In a 3 km run, Pankaj beats kamal by 225 meters or 6 minute. Find the time taken by kamal to complete the race.

- a) 86 minute
- b) 78 minute
- c) 76 minute
- d) 80 minute

Answer: D

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It is clear that Kamal runs 225m in 6 minutes.

Time taken by Kamal to run 3 km =  $(6/225 \times 3000) = 80$  minutes

27. What is the fourth proportional to 336, 288 and 161?

- a) 184
- b) 115
- c) 138
- d) 134

Answer: C

Let fourth proportion be x

$$336/288 = 161/x$$

$$x = (161 \times 288)/336$$

$$x = 138$$

28. 50% of a = b, then b% of 40 is the same as \_\_\_\_\_ of a.

- a) 0.25
- b) 0.16
- c) 2
- d) 0.2

Answer: D

$$50\% \text{ of } a = b$$

$$50/100 \times a = b$$

$$\frac{1}{2} \times a = b$$

$$b\% \text{ of } 40 = a/200 \times 40$$

$$b/100 \times 40 = a/50$$

$$2/5 b = a/50$$

$$1/5 b = a/25$$

$$b = 5/25 a$$

$$b = 1/5 a$$

$$b = 0.2a$$

29. What is the value of  $(\sin 60^\circ - 2/\sqrt{3})$ ?

- a)  $-1/2\sqrt{3}$

- b)  $-1/2$

- c)  $1/\sqrt{3}$

- d)  $(1 - 2\sqrt{3})/2$

Answer: A

$$(\sin 60^\circ - 2/\sqrt{3})$$

$$= \sqrt{3}/2 - 2/\sqrt{3}$$

$$= (3 - 4)/2\sqrt{3}$$

$$= -1/2\sqrt{3}$$

30. The sum of internal angle if a regular polygon is  $1440^\circ$ . What is the number of its sides?

- a) 8
- b) 10
- c) 12
- d) 6

Answer: B

$$\text{Sum of internal angle} = 1440^\circ$$

$$180^\circ (n - 2) = 1440^\circ$$

$$n - 2 = 1440^\circ / 180^\circ$$

$$n - 2 = 8$$

$$n = 8 + 2$$

$$n = 10$$

### General Awareness

1) Pradhan Mantri Kisan Samman Nidhi (PM-KISAN), scheme was started from which place?

- a) Lucknow
- b) Varanasi
- c) Prayagraj
- d) Gorakhpur

Answer: d)

Prime Minister Narendra Modi, launched the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) from Gorakhpur on 24 February 2019. It is an initiative by the government of India in which all farmers will get up to  $\square 6,000$  per year as minimum income support.

## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

2) Which one of the following is the highest peak in the Western Ghats?

- a) Anamudi
- b) Kolaribetta
- c) Mukurthi
- d) Vandaravu

Answer: a)

Anamudi is a mountain located in the Indian state of Kerala. It is the highest peak in the Western Ghats and South India, at an elevation of 2,695 metres.

3) The 2026 FIFA World Cup will be organised in\_\_\_\_\_.

- a) Canada
- b) United States
- c) Mexico
- d) All of the above

Answer: d)

The 2026 FIFA World Cup will be the 23rd FIFA World Cup which is the quadrennial international men's football championship contested by the national football teams of the member associations of FIFA. The Host countries are Canada, United States and Mexico.

4) Which of the following word was added into the Preamble of the Constitution by the 42nd Amendment Act, 1976?

- a) Socialist
- b) Secular
- c) Sovereign
- d) Both a and b

Answer: d)

The 42nd amendment to Constitution of India, was enacted during the Emergency by the Indian National Congress government headed by Indira Gandhi. The 42nd Amendment amended Preamble and changed the description of India from "sovereign democratic republic" to a "sovereign, socialist secular democratic republic" thus adding the word Socialist to the Preamble.

5) Who is the Purple Cap holder in IPL 2020?

- a) Pawan Negi
- b) Ishan Kishan
- c) Kagiso Rabada
- d) Shahbaz Ahamad

Answer: c)

Delhi Capitals' Kagiso Rabada overtook Mumbai Indians' Jasprit Bumrah to win the purple cap in IPL 2020.

6) Bharatanatyam is a classical dance of which state?

- a) Tamil Nadu
- b) Maharashtra
- c) Madhya Pradesh
- d) Kerala

Answer: a)

Bharatanatyam is a dance of Tamil Nadu in southern India. It traces its origins back to the Natyashastra which is an ancient treatise on theatre written by the mythic priest Bharata.

7) What is the scientific name of Frog?

- a) Elephas maximus
- b) Sus scrofa
- c) Columba livia
- d) Rana tigrina

Answer: d)

## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

A frog is any member of a diverse and largely carnivorous group of short-bodied, tailless amphibians. The scientific name of Frog is *Rana tigrina*.

8) The Reserve Bank of India (RBI), is headquartered in\_\_\_\_\_.

- a) Kolkata
- b) Mumbai
- c) Bengaluru
- d) Chennai

Answer: b)

The Reserve Bank of India (RBI) is India's central bank, responsible for the issue and supply of the Indian rupee and the regulation of the Indian banking system. It is headquartered in Mumbai.

9) When was the EXIM Bank established?

- a) 1982
- b) 1988
- c) 1985
- d) 1990

Answer: a)

Export-Import Bank of India (EXIM Bank) is a specialized financial institution, wholly owned by Government of India. It was set up in 1982, for financing, facilitating and promoting foreign trade of India.

10) Which of the following satellite was launched by ISRO in 2020?

- a) EMISAT
- b) GSAT-31
- c) EOS-01
- d) GSAT-7A

Answer: c)

EOS-01 is an earth observation satellite, intended for applications in agriculture, forestry and disaster management support. It was launched in 2020.

11) Who served as the second women Prime Minister of United Kingdom?

- a) Theresa May
- b) Arlene Foster
- c) Margaret Wright
- d) Caroline Lucas

Answer: a)

Theresa Mary May, is a British politician who served as Prime Minister of the United Kingdom and Leader of the Conservative Party. She is the second women Prime Minister of United Kingdom.

12) England is situated on which river?

- a) Thames
- b) Nile
- c) Yangtze
- d) Danube

Answer: a)

The River Thames is a river that flows through southern England including London. It is the longest river entirely in England and the second-longest in the United Kingdom.

13) Who was the Chairman of SEBI in October 2020?

- a) C. B. Bhave
- b) U. K. Sinha
- c) D. R. Mehta
- d) Ajay Tyagi

Answer: d)

The Securities and Exchange Board of India (SEBI) is the regulator of the securities and commodity market in India

## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

owned by the Government of India. Chairman of SEBI is Ajay Tyagi.

14) Buland Darwaza, or the "Door of victory" is located in\_\_\_\_\_.

- a) Agra
- b) Mathura
- c) Gorakhpur
- d) Jaipur

Answer: a)

Buland Darwaza, or the "Door of victory", was built by Mughal emperor Akbar to commemorate his victory over Gujarat. It is the main entrance to the Jama Masjid at Fatehpur Sikri, Agra.

15) Who has written Mudrarakshasa?

- a) Kalidasa
- b) Jayadeva
- c) Kalhana
- d) Vishakhadatta

Answer: d)

The Mudrarakshasa is a Sanskrit-language play by Vishakhadatta that narrates the ascent of the king Chandragupta Maurya to power in India.

16) MGNREGA was established in which year?

- a) 1999
- b) 2001
- c) 2003
- d) 2006

Answer: d)

MGNREGA was initially implemented as National Rural Employment Guarantee Act (NREGA) in 200 selected backward districts in India on February 2, 2006. It was

extended to an additional 130 districts with effect from April 1, 2007.

17) Hydrometer is used to measure\_\_\_\_\_.

- a) specific gravity of liquid
- b) sound wave under water
- c) atmospheric humidity
- d) local gravitational field of the Earth

Answer: a)

A hydrometer is an instrument used to measure the specific gravity of liquids which is the ratio of the density of the liquid to the density of water.

18) Which ports is/are located on the eastern coast of India?

- a) Tuticorin
- b) Visakhapatnam
- c) Navasheva
- d) Both a and b

Answer: d)

There are seven major port located on the east coast of India. Tuticorin in Tamil Nadu and Visakhapatnam in Andhra Pradesh are located on the eastern coast of India.

19) Which instrument is used to measure atmospheric humidity?

- a) Electrometer
- b) Hygrometer
- c) Pyrometer
- d) Radiometer

Answer: b)

A hygrometer is a meteorological instrument that is used to measure the humidity of the air.



## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

20) Which is the western flowing river in India?

- a) Narmada
- b) Tapti
- c) Mahanadi
- d) Both a and b

Answer: d)

The major east flowing rivers are Godavari, Krishna, Cauvery, Mahanadi, etc. Narmada and Tapti are major West flowing rivers in India.

21) Al-Hilal was a weekly Urdu language newspaper by whom?

- a) Muhammad Qasim Hindu Shah
- b) Abbas Khan Sarwani
- c) Jauhar Aftabchi
- d) Maulana Abul Kalam Azad

Answer: d)

Al-Hilal was a weekly Urdu language newspaper established by the Indian Muslim independence activist Maulana Abul Kalam Azad.

22) Who was the first Chief Election Commissioner of India?

- a) Kalyan Sundaram
- b) Sukumar Sen
- c) R. K. Trivedi
- d) Nagendra Singh

Answer: b)

Sukumar Sen was an Indian civil servant and the first Chief Election Commissioner of India. He served from 21 March 1950 to 19 December 1958.

23) Who among the following was the First president of the Indian National Congress?

- a) Allan Octavian Hume
- b) Bal Gangadhar Tilak
- c) Womesh Chandra Banerjee
- d) Mahatma Gandhi

Answer: c)

The Indian National Congress is a broadly-based political party in India founded in 1885. Womesh Chandra Banerjee was the first president of Congress and the first session was attended by 72 delegates.

24) Who invented Automated teller machine (ATM)?

- a) John Shepherd-Barron
- b) John Bardeen
- c) Walter Brattain
- d) William Shockley

Answer: a)

An automated teller machine (ATM) is an electronic telecommunications device that enables customers of financial institutions to perform financial transactions. It was invented by John Shepherd-Barron.

25) International Day for the Preservation of the Ozone Layer is observed on\_\_\_\_\_.

- a) 16<sup>th</sup> September
- b) 21<sup>st</sup> May
- c) 19<sup>th</sup> March
- d) 25<sup>th</sup> December

Answer: a)

United Nations General Assembly designated September 16 as the International Day for the Preservation of the Ozone Layer. This designation had been made on December 19, 2000, in commemoration of the date, in 1987, on which nations signed the Montreal Protocol on Substances that Deplete the Ozone Layer.

## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

26) Under which Article it is the obligation of the State to protect every monument or place or object of artistic or historic interest and of national importance?

- a) Article 41
- b) Article 45
- c) Article 47
- d) Article 49

Answer: d)

Article 49 states that It shall be the obligation of the State to protect every monument or place or object of artistic or historic interest, declared by or under law made by Parliament to be of national importance, from spoliation, disfigurement, destruction, removal, disposal or export.

27) Dipika Pallikal is associated with which of the following sports?

- a) Squash
- b) Table-Tennis
- c) Badminton
- d) Wrestling

Answer: a)

Dipika Pallikal is an Indian professional squash player. She is the first Indian to break into the top 10 in the PSA Women's rankings. She broke into the top 10 in December 2012.

28) Who is named as La Liga's brand ambassador in India?

- a) Virat Kohli
- b) Jasprit Bumrah
- c) Rohit Sharma
- d) Mahendra Singh Dhoni

Answer: c)

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

29) Who was the Chairman of SBI in 2020?

- a) Arijit Basu
- b) Dinesh Kumar Khara
- c) Hardayal Prasad
- d) Ashwini Kumar Tewari

Answer: b)

Dinesh Kumar Khara appointed SBI Chairman for 3 years. He assumed charge on October 7, 2020.

30) Who among the following official is the ex-officio chairman of Rajya Sabha?

- a) President of India
- b) Vice-President of India
- c) Chief Justice of India
- d) The Prime Minister of India

Answer: b)

The Vice President of India is the ex-officio Chairman of the Rajya Sabha, who presides over its sessions. The Deputy Chairman, who is elected from amongst the house's members, takes care of the day-to-day matters of the house in the absence of the Chairman.

31) GST came into effect through the implementation of which amendment of the Constitution of India by the Indian government?

- a) 102nd amendment
- b) 101st amendment
- c) 115th amendment
- d) 107th amendment

Answer: b)

## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

Goods and service tax came into effect from July 1, 2017 through the implementation of One Hundred and First Amendment of the Constitution of India by the Indian government. The tax replaced existing multiple flowing taxes levied by the central and state governments.

32) Onam is an annual festival celebrated in which state?

- a) Kerala
- b) Karnataka
- c) Odisha
- d) Madhya Pradesh

Answer: a)

Onam is an annual festival celebrated in southern Indian state of Kerala. It is a major annual event for Malayali people in and outside Kerala.

33) The Battle of Khanwa took place on\_\_\_\_\_.

- a) March 16, 1527
- b) May, 18, 1525
- c) September 26, 1531
- d) December 19, 1533

Answer: a)

The Battle of Khanwa was fought near the village of Khanwa, in Bharatpur District of Rajasthan, on March 16, 1527. It was fought between the invading forces of the first Mughal Emperor Babur and the Rajput forces led by Rana Sanga of Mewar.

34) Shanti Swarup Bhatnagar is given in the field of\_\_\_\_\_.

- a) Literature
- b) Science
- c) Architecture
- d) Music

Answer: b)

The Shanti Swarup Bhatnagar Prize for Science and Technology is a science award in India given annually by the Council of Scientific and Industrial Research for notable and outstanding research in the field of science.

35) Who was an iconic figure in the cultural history of the Indian subcontinent?

- a) Amir Khusrow
- b) Mirza Muhammad Kazim
- c) Bhimsen Burhanpuri
- d) Ghulam Hussain

Answer: a)

Amir Khusrow was an Indian Sufi singer, poet and scholar who lived under the Delhi Sultanate. He was an iconic figure in the cultural history of the Indian subcontinent.

36) Light of which color is used to in the traffic signals to stop the vehicle?

- a) Blue
- b) Violet
- c) Red
- d) Indigo

Answer: c)

Red colour is used in the traffic signals to stop the vehicle because red is scattered the least by the air molecules. Red is the color with the longest wavelength, so it can be seen from a greater distance than other colors.

37) Kuchipudi dance is associated with which Indian state?

- a) Karnataka
- b) Andhra Pradesh
- c) Maharashtra

## RRB NTPC Memory Based Model Paper Based on Jan 27 Shift 2 Exam

d) Madhya Pradesh

Answer: b)

Kuchipudi is one of the eight major Indian classical dances. It originated in a village named Kuchipudi in the Indian state of Andhra Pradesh. Kuchipudi is a dance-drama performance.

38) Who won the Sports person of the Year Award 2019 (Female) at the FICCI India Sports Awards 2019?

- a) Rani Rampal
- b) Sunita Puri
- c) Suraj Lata Devi
- d) Madhu Yadav

Answer: a)

Rani Rampal, Indian women's hockey team captain, won the Sports person of the Year Award 2019 (Female) at the FICCI India Sports Awards 2019.

39) The All-India Muslim League was established in which year?

- a) 1906

b) 1909

c) 1901

d) 1907

Answer: a)

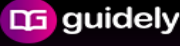
The All-India Muslim League was a political party established in 1906 in British India. It was meant to safeguard the rights of Indian Muslims.

40) Which device is used to measure blood pressure?

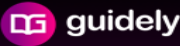
- a) Dynamometer
- b) Bolometer
- c) Radiometer
- d) Sphygmomanometer

Answer: d)


A sphygmomanometer which is also known as a blood pressure monitor is a device used to measure blood pressure.



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