

RRB NTPC Memory Based Model Paper Based on Jan 19 Exam



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Logical Reasoning

1. Four words have been given out of which three are alike in some manner and one is different. Select the odd one.

- a) Dinar
- b) Dollar
- c) Oslo
- d) Yuan

Answer: C

All options except 'Oslo' are name of currencies of different countries.

Oslo is the capital of Norway.

2. Which two signs should be interchanged in the following equation to make it correct?

$$78 \div 6 \times 4 - 3 + 9 = 10$$

- a) \div and \times
- b) $-$ and $+$
- c) $-$ and \times
- d) $-$ and \div

Answer: C

$$78 \div 6 \times 4 - 3 + 9 = 10$$

- c) $-$ and \times

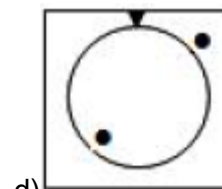
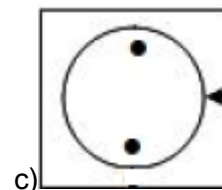
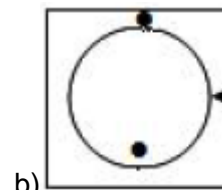
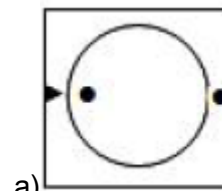
$$78 \div 6 - 4 \times 3 + 9 = 10$$

$$\Rightarrow 13 - 12 + 9 = 10$$

$$\Rightarrow 22 - 12 = 10$$

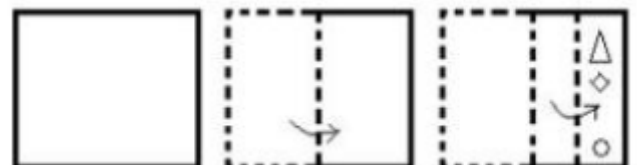
$$\Rightarrow 10 = 10$$

3. Select the odd one out.

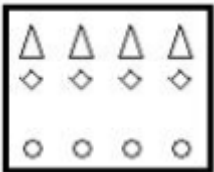
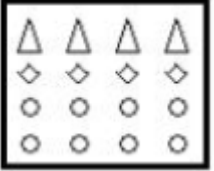
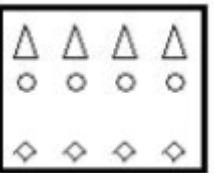
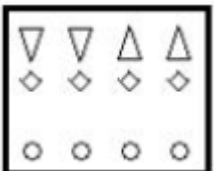


Answer: C

4. A paper is folded and cut as shown below. How will the paper appear when unfolded?

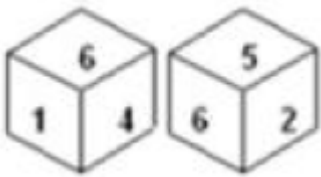


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- a) 
- b) 
- c) 
- d) 

Answer: A

5. Two positions of the same cube are shown below. What will come opposite to the face containing '6'?



- a) 1
b) 4
c) 5
d) 3

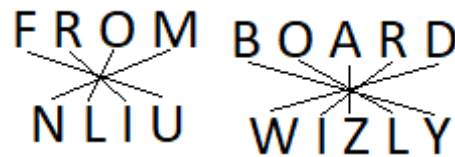
Answer: D

As 6 is common face on the dice, 1, 4, 6 and 2 are adjacent to 6 and 3 is opposite to 6.

6. In a certain code language, FROM is coded as NLIU. How will BOARD be coded as in that language?

- a) WIZLY
b) WILZY
c) WZILY
d) WLZIY

Answer: A



Letters are shifted and replaced by their reverse letter.

7. Three of the four words are related in a certain way and one is different. Select the odd one out.

- a) Guilt
b) Droll
c) Contrition
d) Penitence

Answer: B

All words except 'droll' are synonyms of each other.

8. Select the option that is related to the third term in the same way as the second term is related to the first term.

Monkey : Screech :: Dolphin : ?

- a) Coo
b) Roar
c) Click
d) Hum

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Answer: C

Screech is sound made by Monkey.

Click is sound made by Dolphin.

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

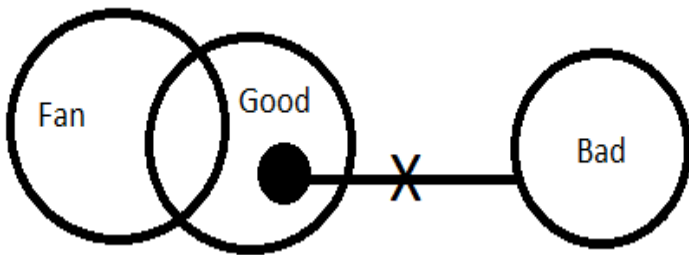
Statements:

- I. Some fans are good.
- II. Some good are not bad.

Conclusions:

- I. Some bad are not good.
 - II. Some fans are not bad.
- a) Only conclusion II follows
 - b) Only conclusion I follows
 - c) Both conclusion I and II follows
 - d) None of the conclusion follows

Answer: D



- I. Some bad are not good - False
- II. Some fans are not bad - False

10. A man is facing North direction. He took left turn at 90° and walked 500 m, and then he took right turn and walked 450 m. Finally he took right and walked 900 m. Which direction is he facing now?

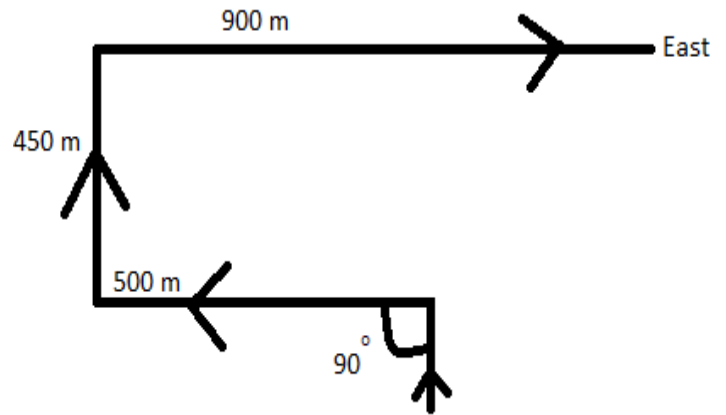
- a) West

b) South

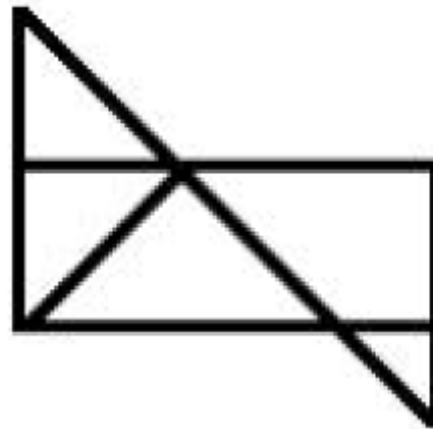
c) North

d) East

Answer: D



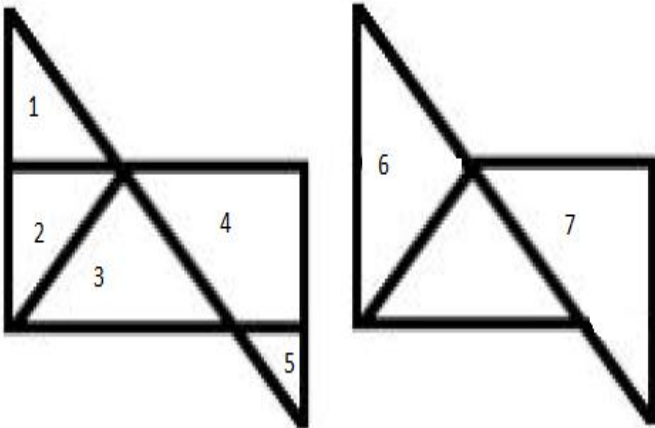
11. How many triangles are there in the given figure?



- a) 5
- b) 6
- c) 7
- d) 8

Answer: C

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12. Find the wrong term in the given series.

SL, QN, NP, JU, EZ

- a) QN
- b) SL
- c) NP
- d) EZ

Answer: C

$S - 2 = Q; Q - 3 = N; N - 4 = J; J - 5 = E$

$L + 2 = N; N + 3 = Q \neq P; Q + 4 = U; U + 5 = Z$

Instead of NP, it should be NQ.

13. Four numbers have been given out of which three are alike in some manner, while one is different. Choose the odd one.

- a) 6513
- b) 7647
- c) 5055
- d) 2913

Answer: B

a) $6513 \rightarrow 6 + 5 + 1 + 3 = 15$

b) $7647 \rightarrow 7 + 6 + 4 + 7 = 24 \neq 15$

c) $5055 \rightarrow 5 + 0 + 5 + 5 = 15$

d) $2913 \rightarrow 2 + 9 + 1 + 3 = 15$

14. Given below is a question followed by two statements. Analyse and decide whether the question can be answered from the given statements.

Question: Who is A's father?

Statement I: A is son of D.

Statement II: L is brother of A.

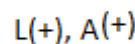
- a) Statement I and II together are not sufficient
- b) Statement I and II together are sufficient
- c) Statement II alone is sufficient
- d) Statement I alone is sufficient

Answer: A

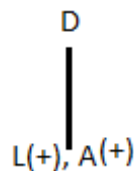
Statement I: A is son of D.



Statement II: L is brother of A.



From both the statement I and II, we get:



Statement I and II together are not sufficient as it is not given if D is male or female, so D can either be A's mother or father.

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15. Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

1. While an average person lives up to 72 years of age.

A. She was a well-known medico recognised for her service as a consultant neurologist with a career of over 25 years.

B. The life expectancy of doctors is only about 59 years, the shocking IMA study concluded.

C. Her death brings to the fore the fact that even doctors have risky life-styles and a hard life.

D. The sudden death of Dr. Meena Kumar at an International Conference in London after suffering a cardiac arrest has alarmed the medical community.

6. A study by the Indian Medical Association conducted on doctors, said.

a) BDAC

b) BADC

c) ABDC

d) ADBC

Answer: A

1. While an average person lives up to 72 years of age.

B. The life expectancy of doctors is only about 59 years, the shocking IMA study concluded.

D. The sudden death of Dr. Meena Kumar at an International Conference in London after suffering a cardiac arrest has alarmed the medical community.

A. She was a well-known medico recognised for her service as a consultant neurologist with a career of over 25 years.

C. Her death brings to the fore the fact that even doctors have risky life-styles and a hard life.

6. A study by the Indian Medical Association conducted on doctors, said.

16. If + means -, - means ×, × means ÷ and ÷ means +, then what will be value of following expression?

$$45 \times 5 - 3 \div 60 + 22 = ?$$

a) 56

b) 65

c) 76

d) 67

Answer: B

| | | | |
|---|---|---|---|
| + | - | × | ÷ |
| - | × | ÷ | + |

$$45 \times 5 - 3 \div 60 + 22 = ?$$

After replacing symbols:

$$45 \div 5 \times 3 + 60 - 22 = ?$$

$$\Rightarrow 27 + 60 - 22 = ?$$

$$\Rightarrow 87 - 22 = ?$$

$$\Rightarrow 65 = ?$$

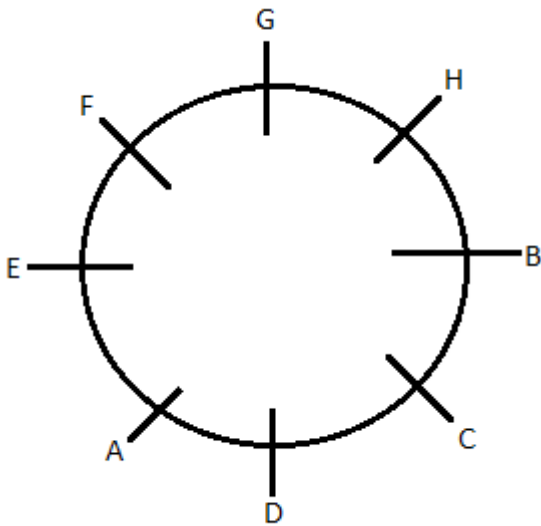
17. Eight friends A, B, C, D, E, F, G and H are sitting around a circular table facing the centre. E, F, G and H are sitting one after another in a clockwise manner and C is not the neighbour of E. A is facing H and B is sitting 2nd to the right of D, then who is facing F?

a) C

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

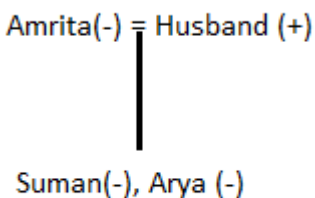
Answer: A



18. Suman and Arya are sisters. Amrita's daughter is sister of Suman. How Arya's father is related to Amrita?

- a) Son
- b) Brother
- c) Husband
- d) Cousin

Answer: C



Arya's father is husband of Amrita.

19. In this question, three statements are given followed by four conclusions. Choose the conclusions which best fit(s) logically.

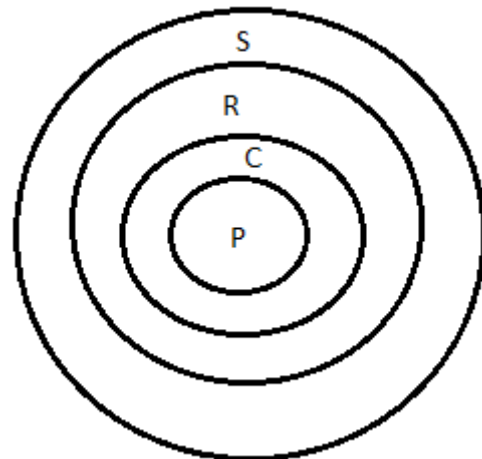
Statements:

- I. All P is C
- II. All C is R
- III. All R is S

Conclusions:

- I. All P is S
 - II. Some C is P
 - III. Some R is not S
 - IV. Some C is S
- a) Only conclusion II and III follows
 - b) Only conclusion I, II and IV follows
 - c) Either conclusion I or II follows
 - d) None of the conclusion follows

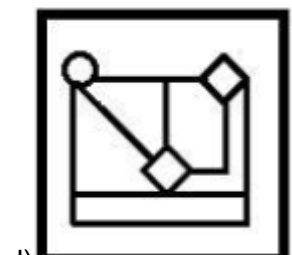
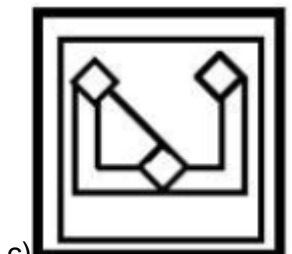
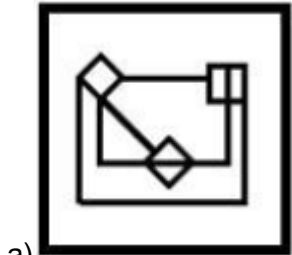
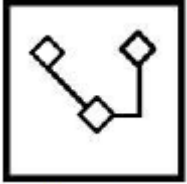
Answer: B



- I. All P is S - True
- II. Some C is P - True
- III. Some R is not S - False
- IV. Some C is S - True

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20. Select the option in which the given figure is embedded when rotation is not allowed.



Answer: B



21. Find the wrong term in the series.

1, 5, 17, 39, 65, 101, 145, 197

- a) 5
- b) 1
- c) 39
- d) 65

Answer: C

$$0^2 + 1 = 1$$

$$2^2 + 1 = 5$$

$$4^2 + 1 = 17$$

$$6^2 + 1 = 37 \neq 39$$

$$8^2 + 1 = 65$$

$$10^2 + 1 = 101$$

$$12^2 + 1 = 145$$

$$14^2 + 1 = 197$$

22. How many such pairs of letters are there in the word BENEVOLENCE which has as many letters between them as in the English alphabetical series?

- a) 5
- b) 3
- c) 4
- d) 1

Answer: B

BENEVOLENCE – BE (Left to Right)

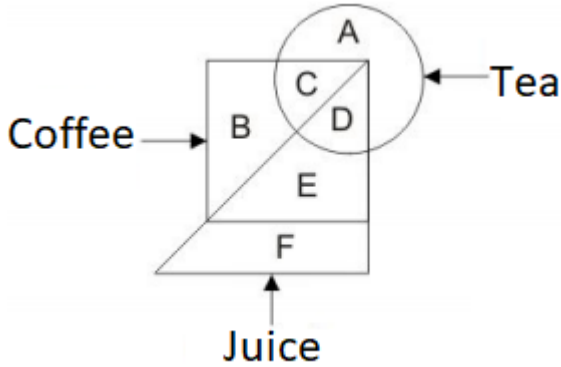
BENEVOLENCE – LN (Left to Right)

BENEVOLENCE – CE (Right to Left)

23. In the figure given below, the preference of different people for different beverages is shown.

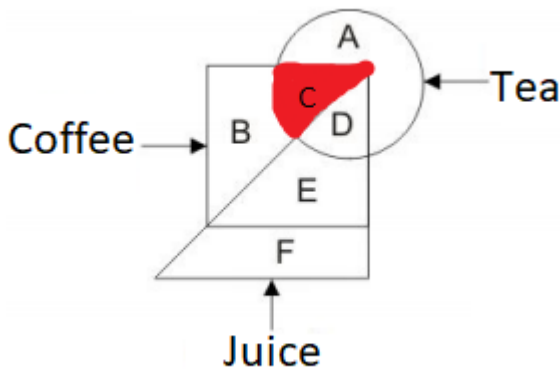
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Which letter represents persons who like tea and coffee, but not juice?



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

Answer: A



24. Select the option that will replace the '?' in the given series.

3E, 9G, 27I, ?, 243M

- a) 81L
- b) 81J
- c) 81K
- d) 81M

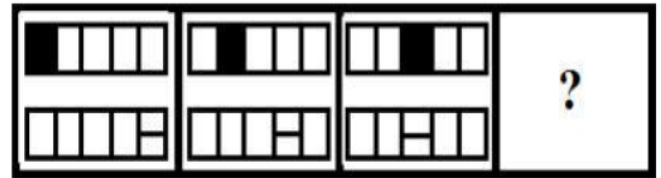
Answer: C)

$3 \times 3 = 9$; $9 \times 3 = 27$; $27 \times 3 = 81$; $81 \times 3 = 243$

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$E + 2 = G$; $G + 2 = I$; $I + 2 = K$; $K + 2 = M$

25. Select the figure that will come next in the following figure series.



- a)
- b)
- c)
- d)

Answer: D



26. Which two numbers should be interchanged in the following equation to make it correct?

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$$7 + 24 \times 3 - 72 \div 18 = 58$$

- a) 3 and 7
- b) 18 and 24
- c) 7 and 18
- d) 72 and 24

Answer: B

$$7 + 24 \times 3 - 72 \div 18 = 58$$

- b) 18 and 24

$$7 + 18 \times 3 - 72 \div 24 = 58$$

$$\Rightarrow 7 + 54 - 3 = 58$$

$$\Rightarrow 61 - 3 = 58$$

$$\Rightarrow 58 = 58$$

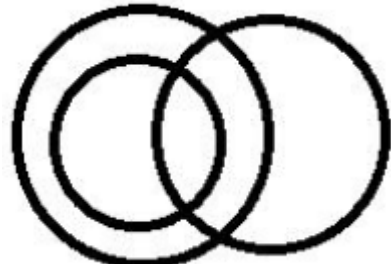
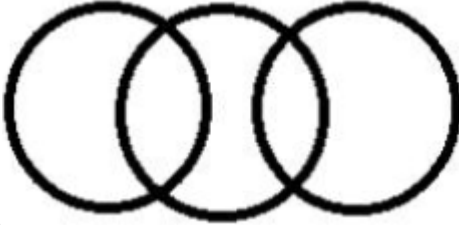
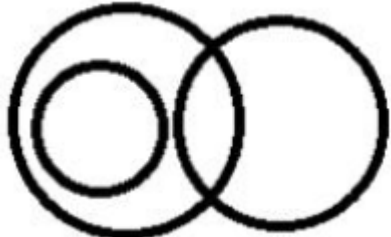
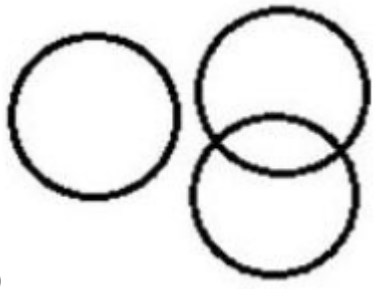
27. Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order.

1. Infant
 2. Old Age
 3. Adolescent
 4. Adult
 5. Childhood
- a) 1, 4, 3, 5, 2
 - b) 1, 5, 3, 4, 2
 - c) 1, 5, 4, 3, 2
 - d) 1, 3, 5, 4, 2

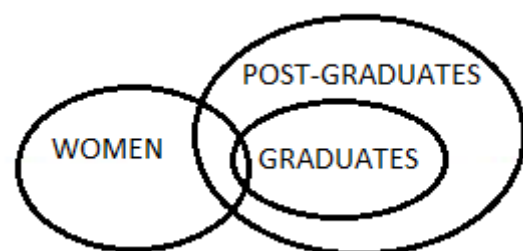
Answer: B

1. Infant
5. Childhood
3. Adolescent
4. Adult
2. Old Age

28. Select the Venn diagram that best represents the relationship among Graduates, Post-graduates, and Women.

- a) 
- b) 
- c) 
- d) 

Answer: A



All Graduates are Post-Graduates.

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Some women are Post-Graduates and Graduates.

29. Select the word-pair in which the two words are related in the same way as are the words in the following word-pair.

Fish : Pisciculture

- a) Goat : Apiculture
- b) Honeybee : Citriculture
- c) Earthworm : Horticulture
- d) Silkworm : Sericulture

Answer: D

The breeding, rearing, and transplantation of fish by artificial means is called pisciculture, in other words, fish farming.

Similarly,

Sericulture, or silk farming, is the cultivation of silkworms to produce silk.

30. Consider the statement and assumptions below and decide which assumption is inherent in the statement.

Statement:

Doctor warned the patient, he must stop smoking if he wants to lead a healthy life and freedom from the disease of lungs.

Assumptions:

I. If the patient cooperates, the doctor can treat his disease.

II. The patient may follow the doctor's advice and stop smoking.

- a) Only I is inherent.
- b) Only II is inherent.

c) Neither I nor II is inherent.

d) Both I and II are inherent.

Answer: D

Mathematics

1. If a seller earns profit of 25% on the sale of an article, then find the cost price of the article if the selling price was Rs. 120?

- a) Rs. 78
- b) Rs. 96
- c) Rs. 90
- d) Rs. 86

Answer: B

Let Cost price = 100%

Profit = 25%

Selling price = cost price + profit = 100 + 25% = 125%

Selling price = 120

= $120/125 \times 100 = 96$

Cost price of the article = Rs.96

2. The area of a square field is 3600 sq. m. If the speed of a man is 4km/hr then find the time taken by the man to complete a walk along the sides of the field.

- a) 208 sec
- b) 213 sec
- c) 200 sec
- d) 216 sec

Answer: D

Area of a square field = 3600 m²

$a^2 = 3600 \text{ m}^2$

$a = \sqrt{3600}$

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a = 60 m

Perimeter of square field = $4 \times a = 4 \times 60 = 240$ m

The time taken by him to complete a walk along the sides of the field = Distance/Speed
= $240/4000 \times 3600 = 216$ sec

3. A person bought a scooter for Rs. 30000, he spent Rs. 5000 on its maintenance. He sells the scooter at Rs. 42000, find the profit percentage.

- a) 30%
- b) 10%
- c) 20%
- d) 25%

Answer: C

Total Cost Price = Rs. 30000 + Rs. 5000 = Rs. 35000

Selling Price = Rs. 42000

Profit % = $(SP - CP)/CP \times 100$
= $(42000 - 35000)/35000 \times 100$
= $7000/35000 \times 100$
= 100/5
= 20%

4. Which of the least numbers is divisible by the first 10 natural numbers?

- a) 2520
- b) 2500
- c) 2200
- d) 2502

Answer: A

LCM (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
= $8 \times 9 \times 5 \times 7$
= 2520

5. A can do a work in 12 days. B is 20% more efficient than A. How many days will A and B take together take to do the same job?

- a) 7/11 days
- b) 60/11 days
- c) 21/11 days
- d) 6/11 days

Answer: B

A's one day work = $1/12$

B = 20% more efficient than A = 120% of A =
 $120/100 \times 12 = 1/10$

(A + B)'s one day work = $1/12 + 1/10 = (5 + 6)/60 = 11/60$

No. of days (A + B) take together take to do the same job = $60/11$ days

6. If length of a rectangle is increased by 20% and breadth is increased by 30%, then what will be the percentage increase in the area of rectangle?

- a) 50%
- b) 56%
- c) 60%
- d) 46%

Answer: B%

Percentage increase in the area of rectangle = $x + y + xy/100$
= $20 + 30 + 20 \times 30/100$
= $50 + 6$
= 56%

7. Kapil purchased a number of articles at Rs. 20/- for each and the same article for Rs. 28 each. He

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mixed them together and sold them for Rs. 26/- each. Then his gain or loss percentage is.

- a) Loss $8\frac{1}{3}$ %
- b) Loss $8\frac{2}{3}$ %
- c) Profit $8\frac{2}{3}$ %
- d) Profit $8\frac{1}{3}$ %

Answer: D

CP of article = 20

CP of article = 28

CP of each article = $\frac{48}{2} = 24$

SP of each article = 26

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

$$= \frac{(26 - 24)}{24} \times 100$$

$$= \frac{2}{24} \times 100$$

$$= \frac{100}{12}$$

$$= \frac{25}{3}$$

$$= 8\frac{1}{3} \%$$

8. A student divides a number by $\frac{5}{3}$ instead of multiplying by it. What is the percentage error he got?

- a) 46%
- b) 64%
- c) $177\frac{7}{9}$ %
- d) 44%

Answer: B

Percentage Error = $\frac{\{5/3 - 3/5\}}{5/3} \times 100$

$$= \frac{\{(25 - 9)/15\}}{\{5/3\}} \times 100$$

$$= \frac{\{16/15\}}{\{5/3\}} \times 100$$

$$= 64\%$$

9. If $\frac{1}{3} A : \frac{1}{4} B : \frac{1}{5} C$, then find the ratio of A : B : C.

a) 5 : 3 : 4

b) 4 : 5 : 3

c) 3 : 4 : 5

d) 4 : 3 : 5

Answer: C

$$\frac{1}{3} A : \frac{1}{4} B : \frac{1}{5} C$$

If we take, $\frac{1}{3} A : \frac{1}{4} B$

$$A : B = 3 : 4$$

$$\text{Also, } \frac{1}{4} B : \frac{1}{5} C$$

$$C : B = 5 : 4$$

$$A : B : C = \frac{3}{4} B : B : \frac{5}{4} B$$

$$A : B : C = \frac{3}{4} : 1 : \frac{5}{4}$$

$$A : B : C = 3 : 4 : 5$$

10. If efficiency of mukesh is twice as kamlesh and both completed the work in 22 days, then mukesh complete the work in how many days.

- a) 30 days
- b) 11 days
- c) 22 days
- d) 33 days

Answer: D

No. of days mukesh take to complete the work = 22 $\times \frac{3}{2} = 33$ days

11. If $12 : 51 :: x : 17$, then find the value of x.

- a) 4
- b) 3
- c) 5
- d) 7

Answer: A

$$12 : 51 :: x : 17$$

$$12 \times \frac{17}{51} = x$$

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$$x = 4$$

12. If 111.....n, then what is the value of n so that the number is exactly divisible by 9.

- a) 8
- b) 3
- c) 9
- d) 6

Answer: C

If any number is divisible by 9 it means sum of all digits of given number should be completely divisible by 9 it means n should be 9.

13. If side of equilateral triangle is $2\sqrt{3}$, then find the area of equilateral triangle.

- a) 2
- b) 3
- c) 4
- d) 5

Answer: B

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

$$= \frac{\sqrt{3}}{4} \times (2\sqrt{3})^2$$

$$= \frac{\sqrt{3}}{4} \times 4 \times ((3)^{1/4})^2$$

$$= \sqrt{3} \times \sqrt{3}$$

$$= 3$$

14. If $\Delta ABC \sim \Delta PQR$ and the ratio of BC : QR = 1 : 3, then find the ratio of area of ΔPQR : area of ΔBCA

- a) 1 : 9
- b) 1 : 3
- c) 3 : 1
- d) 9 : 1

Answer: D

$$\text{Area of } \Delta PQR : \text{Area of } \Delta BCA = QR^2 : BC^2$$

$$= (3)^2 : (1)^2$$

$$= 9 : 1$$

15. What number should be added in ratio of 5 : 7, so that it will equal to 6 : 7?

- a) 1
- b) 7
- c) 6
- d) 5

Answer: B

$$5 + x : 7 + x = 6 : 7$$

$$7 \times (5 + x) = 6 \times (7 + x)$$

$$35 + 7 \times x = 42 + 6 \times x$$

$$42 - 35 = 7x - 6x$$

$$7 = x$$

16. If $3x/2y = 48/72$, then find the value of x/y.

- a) 8/9
- b) 7/9
- c) 4/9
- d) 5/9

Answer: C

$$3x/2y = 48/72$$

$$x/y = 48 \times 2 / 72 \times 3$$

$$x/y = 4/9$$

17. If $(a^3 + b^3) / (a^3 - b^3) = 185 / 158$ then find the value of a/ b.

- a) 5/9
- b) 9/5
- c) 3/7
- d) 7/3

Answer: D

$$(a^3 + b^3) / (a^3 - b^3) = 185/158$$

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Using componendo and dividendo

$$(a^3 + b^3 + a^3 - b^3) / (a^3 + b^3 - a^3 + b^3) = 185 + 158 /$$

$$185 - 158$$

$$2a^3/2b^3 = 343/27$$

$$a^3/b^3 = 343/27$$

$$a/b = \sqrt[3]{343/27}$$

$$a/b = 7/3$$

18. The sum of investments of A, B and C is Rs. 33000. Total Profit earned by them is Rs. 15000. If the profit of A and B are Rs. 4500 and Rs. 5500 respectively. Then find the investment of C.

- a) Rs. 15000
- b) Rs. 10000
- c) Rs. 11000
- d) Rs. 9000

Answer: C

Profit of A = Rs. 4500

Profit of B = Rs. 5500

Total Profit = Rs. 15000

So, Profit of C = 15000 – 4500 – 5500

$$= 15000 - 10000 = 5000$$

If ratio of Profit of A : B : C = 4500 : 5500 : 5000

So, A : B : C = 9 : 11 : 10

Investment of C = $10/30 \times 33000$

$$= 11000$$

19. If the difference between 62% and 80% of a number is 198, then the difference between 92% and 56% of the number will be.

- a) 398
- b) 3564
- c) 1100

d) 360

Answer: A

$$(80\% - 62\%) \text{ of } x = 198$$

$$18\% \times x = 198$$

$$18/100 \times x = 198$$

$$x = 1100$$

$$\Rightarrow (92\% - 56\%) \text{ of } 1100$$

$$= 36\% \text{ of } 1100$$

$$= 36/100 \times 1100$$

$$= 36 \times 11$$

$$= 398$$

20. The sum of the salaries of A and B together is Rs. 45000. A spends 85% of his salary and B spends 70% of his salary. If now their savings are the same.

What is B's salary (in Rs.)?

- a) 30,000
- b) 18,000
- c) 12,600
- d) 15,000

Answer: D

Saving of A = 15% of income of A

Saving of B = 30% of income of B

According to the question,

Saving of A = Saving of B

$$15\% \text{ of income of A} = 30\% \text{ of income of B}$$

$$\text{income of A} = 2 \times \text{income of B}$$

Total salary of A and B = 45,000

$$2 \times \text{income of B} + \text{income of B} = 45,000$$

$$3 \times \text{income of B} = 45,000$$

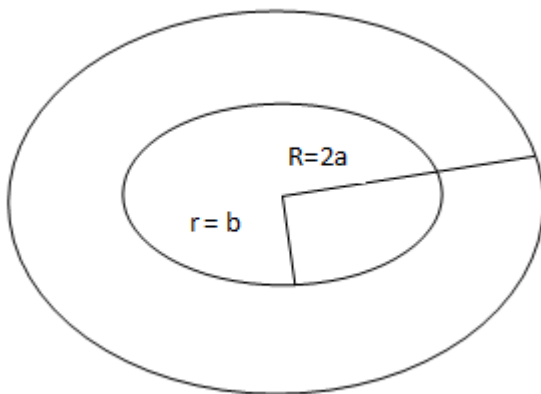
$$\text{Income of B} = 15,000$$

RRB NTPC Memory Based Model Paper Based on Jan 19 Exam

21. A smaller circle of radius b is enclosed in larger circle of radius $2a$, and then find the area of the path.

- a) $\pi(2a^2 + b^2)$
- b) $\pi(2a^2 - b^2)$
- c) $\pi(4a^2 - b^2)$
- d) $\pi(4a^2 + b^2)$

Answer: C



$$\begin{aligned} \text{Path area} &= \pi (R^2 - r^2) \\ &= \pi \{(2a)^2 - b^2\} \\ &= \pi (4a^2 - b^2) \end{aligned}$$

22. Solve: $1254 + 125.4 + 12.54 + 1.254$.

- a) 392.194
- b) 3931.94
- c) 390.194
- d) 393.194

Answer: D

$$\begin{aligned} &1254 + 125.4 + 12.54 + 1.254 \\ &= 393.194 \end{aligned}$$

23. When the price of sugar increases by 25% a man buy 10 kg less sugar for Rs. 200. Find the difference between Final Price and Initial Price.

- a) Rs. 1
- b) Rs. 2

- c) Rs. 5
- d) Rs. 7

Answer: A

$$25\% \text{ of } 200 = \frac{25}{100} \times 200 = 50\text{Rs.}$$

A man buy 10 kg for Rs. 50 it means $= \frac{50}{10} = 5$
Rs/kg = Final Price

If price of sugar increases by 25% $= \frac{5}{125\%} = 5 \times \frac{100}{125} = 4$ Rs/kg = Initial Price

Difference between Final Price and Initial Price $= 5 - 4 = \text{Rs. } 1$

24. If the concentration of pulp in fresh fruit is 20% while in dry fruit it is 80%, find the quantity of dry fruit obtained from 140 kg fresh fruit.

- a) 45 kg
- b) 55 kg
- c) 35 kg
- d) 25 kg

Answer: C

$$\text{Fresh Fruit} \times 20\% = \text{Dry Fruit} \times 80\%$$

$$\text{Fresh Fruit} : \text{Dry Fruit} = 80 : 20$$

$$\text{Fresh Fruit} : \text{Dry Fruit} = 4$$

$$140 : \text{Dry Fruit} = 4$$

$$\text{Dry Fruit} = \frac{140}{4}$$

$$\text{Dry Fruit} = 35 \text{ kg}$$

25. A, B and C are three students. A got 36% less marks than B and 16% more marks than C. If B got 145 marks, then what is the mark obtained by C?

- a) 120 marks
- b) 80 marks
- c) 110 marks
- d) 75 marks

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Answer: B

$$\begin{aligned} A &= 64\% \text{ of } B \\ &= 64\% \text{ of } 145 \\ &= 64/100 \times 145 \\ &= 92.8 \end{aligned}$$

$$\begin{aligned} A &= 116\% \text{ of } C \\ 92.8 &= 116\% \text{ of } C \\ 92.8 &= 116/100 \times C \\ 92.8 \times 100/116 &= C \end{aligned}$$

C = 80 marks

26. In degree course 40% student took admission in science, 75% of the remaining in commerce and remaining 12 students in arts. Then total number of students is:

- a) 150
- b) 100
- c) 80
- d) 120

Answer: C

Let the total number of students be x

$$\begin{aligned} x \times 60\% \times 25\% &= 12 \\ x \times 60/100 \times 25/100 &= 12 \\ x &= 120000/1500 \\ x &= 80 \end{aligned}$$

27. If $\sin \theta + \operatorname{cosec} \theta = 2$, then find the value of $\sin^8 \theta + \operatorname{cosec}^8 \theta$.

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

Answer: D

Maximum value of $\sin \theta = 1$ it means $\theta = 90^\circ$

It means $\sin 90^\circ + \operatorname{cosec} 90^\circ = 1 + 1 = 2$

$$\sin^8 90^\circ + \operatorname{cosec}^8 90^\circ = (1)^8 + (1)^8 = 1 + 1 = 2$$

28. Total population increases in Delaware is 18%, whereas the female population increase is 20% and the male population increase is 16%, If the total population of Delaware was 24000, then what was the number of males?

- a) 12000
- b) 13500
- c) 13000
- d) 12500

Answer: A

| Male | Female |
|------|--------|
| 16% | 20% |
| 18% | |
| 2% | 2% |

Ratio of Male : Female = 2% : 2% = 1 : 1

Total population of Delaware = 24000

So, number of males = 12000

29. If the two quadratic equation $x^2 + ax + b = 0$ and $x^2 + bx + a = 0$ have a common roots then what is the value of $a + b$.

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

Answer: A

$$x^2 + ax + b = 0 \dots (i)$$

$$x^2 + bx + a = 0 \dots (ii)$$

Subtracting equ (i) and (ii) we get,

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$$x(a - b) + b - a = 0$$

$$x(a - b) = a - b$$

$$x = 1$$

Putting the value of $x = 1$ in equ (i) we get,

$$1^2 + a + b = 0$$

$$1 + a + b = 0$$

$$a + b = -1$$

30. If $X = 2^6 \times 3^2$, $Y = 2^4 \times 4^2$ and $Z = 3^4 \times 9^2$, then

LCM of XY, YZ and ZX is.

a) $2^{10} \times 3^{10}$

b) $2^{14} \times 3^2$

c) $2^4 \times 3^{10}$

d) $2^{14} \times 3^{10}$

Answer: D

$$XY = 2^6 \times 3^2 \times 2^4 \times 4^2 = 2^{14} \times 3^2$$

$$YZ = 2^4 \times 4^2 \times 3^4 \times 9^2 = 2^8 \times 3^8$$

$$ZX = 3^4 \times 9^2 \times 2^6 \times 3^2 = 2^6 \times 3^{10}$$

$$\text{LCM of XY, YZ and ZX} = 2^{14} \times 3^{10}$$

General Awareness

1) Who was India's Prime Minister in 1977-79?

a) Lal Bahadur Shastri

b) Gulzarilal Nanda

c) Lal Bahadur Shastri

d) Morarji Ranchhodji Desai

Answer: D

Morarji Ranchhodji Desai was an Indian independence activist and served between 1977 and 1979 as the 4th Prime Minister of India and led the government formed by the Janata Party.

2) Keoladeo National Park is located in which state?

a) Madhya Pradesh

b) Rajasthan

c) Goa

d) Kerala

Answer: B

Keoladeo National Park formerly known as the Bharatpur Bird Sanctuary in Bharatpur, Rajasthan, India is a famous avifauna sanctuary that hosts thousands of birds, especially during the winter season. It was declared a protected sanctuary in 1971. It is also a World Heritage Site.

3) When did Mahatma Gandhi come back to India from South Africa?

a) 1911

b) 1915

c) 1917

d) 1921

Answer: B

After over 21 years stay in South Africa, Gandhi returned to India on January 9, 1915 with his wife Kasturba.

4) Supreme Court issues writs according to which article?

a) Article 32

b) Article 35

c) Article 38

d) Article 31

Answer: A

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The Supreme Court and High courts have power to issue writs in the nature of habeas corpus, quo warranto, mandamus, certiorari, prohibition etc under Articles 32 and 226 respectively. The courts can issue five kinds of writs protecting the rights of the citizens.

5) Which of the following commission was formed after the incidence of Jallianwala Bagh Massacre?

- a) Reading commission
- b) Montague commission
- c) Hunter commission
- d) Simon commission

Answer: C

A Committee named Hunter Committee was set up to investigate the Jallianwala Bagh incident. It was led by Lord William Hunter and assisted by five Englishmen and four Indians.

6) The 'Doctrine of Lapse' policy was introduced by which Governor-General?

- a) Lord Curzon
- b) Lord Canning
- c) Warren Hastings
- d) Lord Dalhousie

Answer: D

The Doctrine of lapse theory was introduced by Lord Dalhousie. The company took over the princely states of Satara (1848), Jaitpur and Sambalpur (1849), Nagpur and Jhansi (1854), Tore and Arcot

(1855) and Udaipur (Chhattisgarh) under the terms of the doctrine of lapse.

7) How many terabytes are there in one Petabyte?

- a) 500
- b) 1001
- c) 1000
- d) 1024

Answer: D

1 Petabyte is equivalent to 1024 Terabytes (Tb).

8) Which gland secretes Growth hormone?

- a) Pituitary gland
- b) Pineal gland
- c) Adrenal gland
- d) Thyroid gland

Answer: A

The pituitary gland is a structure in our brain that produces different types of specialised hormones, including growth hormone.

9) Victoria Falls is on which river?

- a) Yangtze river
- b) Amazon river
- c) Zambezi River
- d) Mekong river

Answer: C

Victoria Falls is a waterfall on the Zambezi River in southern Africa, which provides habitat for several unique species of plants and animals.

RRB NTPC Memory Based Model Paper Based on Jan 19 Exam

10) Which one of the following acid is present in Vinegar?

- a) Acetic acid
- b) Boric Acid
- c) Carbonic Acid
- d) Hydrochloric Acid

Answer: A

Vinegar is a diluted solution that contains acetic acid.

Acetic acid is also called ethanoic acid.

11) Aryabhata and Kalidasa lived in whose court?

- a) Harsha
- b) Chandragupta Maurya II
- c) Nawab Wajid Ali Shah
- d) Akbar

Answer: B

Aryabhata and Kalidasa adorned the court of Gupta ruler Chandragupta II who was also known as Chandragupta Vikramaditya. Kalidasa was a classical Sanskrit writer, who was one of the nine gems of Chandragupta's court.

12) UPSC comes under which of the following article?

- a) Article 360
- b) Article 315
- c) Article 352
- d) Article 321

Answer: B

The Article 315 of the Indian Constitution deals with Public Service Commissions for the Union and for the States. The UPSC is a constitutional body.

13) Gateway of India was formed in which year?

- a) 1913
- b) 1915
- c) 1911
- d) 1921

Answer: A

The Gateway of India is an arch-monument built in the early twentieth century in the city of Mumbai, in the Indian state of Maharashtra. The foundation stone was laid in March 1913.

14) The Chennakeshava Temple is in which Indian state?

- a) Kerala
- b) Karnataka
- c) Odisha
- d) Tamil Nadu

Answer: B

The Chennakeshava Temple of Belur, is a 12th-century Hindu temple in the Hassan district of Karnataka state, India. It was commissioned by King Vishnuvardhana on the banks of the Yagachi River.

15) Lady Willingdon Park is located in _____?

- a) Jaipur
- b) Delhi
- c) Indore

RRB NTPC Memory Based Model Paper Based on Jan 19 Exam

d) Lucknow

Answer: B

Lodi Garden, is an urban open space located at the heart of Delhi. It was previously known as the Lady Willingdon Park, after Lady Willingdon, the wife of then Viceroy of India Lord Willingdon.

16) 2018 Commonwealth Games was held in_____.

- a) Gold Coast,Australia
- b) Melbourne, Australia
- c) Sydney, Australia
- d) Perth, Australia

Answer: A

The 2018 Commonwealth Games was an international multi-sport event for members of the Commonwealth that were held on the Gold Coast, Queensland, Australia.

17) Who is the CEO of HDFC Bank?

- a) Uday Kotak
- b) Amitabh Chaudhary
- c) Sandeep Bakshi
- d) Sashidhar Jagdishan

Answer: D

Sashidhar Jagdishan is the HDFC Bank's new Chief Executive Officer (CEO), replacing Aditya Puri as the head of the private sector lender.

18) Brahmagiri archaeological site is in which state?

- a) Karnataka

b) Manipur

c) Uttar Pradesh

d) Kerala

Answer: A

Brahmagiri is an archaeological site located in the Chitradurga district of the state of Karnataka, India. This is the site where sage Gautama Maharishi and his wife Ahalya lived.

19) Which one of the following is an ancient Sanskrit book?

- a) Ashtadhyayi
- b) Arthashastra
- c) Buddhacharita
- d) Shatkhandagama

Answer: A

Ashtadhyayi is the central part of Panini's grammar, and by far the most complex. The Ashtadhyayi is one of the oldest linguistic and grammar text of Sanskrit.

20) Which PSU of Maharashtra was changed into a maharatna company?

- a) Bharat Petroleum Corporation Limited
- b) Indian Oil Corporation Limited
- c) Hindustan Petroleum Corporation Limited
- d) Coal India Limited

Answer: A

Bharat Petroleum Corporation Limited (BPCL) is an Indian public sector oil and gas company headquartered in Mumbai, Maharashtra. It has been accorded Maharatna status by the government.

RRB NTPC Memory Based Model Paper Based on Jan 19 Exam

21) The Idukki Dam is situated on which river?

- a) Godavari
- b) Indus
- c) Kaveri
- d) Periyar

Answer: D

The Idukki Dam is a double curvature Arch dam constructed across the Periyar River in a narrow gorge between two granite hills locally known as Kuravan and Kurathi in Kerala, India. It is one of the highest arch dams in Asia.

22) Who won the Oscar Award 2020 for Best Actress in a Leading Role?

- a) Renee Zellweger
- b) Cynthia Erivo
- c) Scarlett Johansson
- d) Saoirse Ronan

Answer: A

Renee Zellweger has won the best actress Oscar at the 92nd Academy Awards for her role as Judy Garland in the biopic of the singer and movie star.

23) ASCEND 2020 Summit was held in_____.

- a) Kochi, Kerala
- b) Jaipur, Rajasthan
- c) Bengaluru, Karnataka
- d) Mumbai, Maharashtra

Answer: A

Kerala organized the Global Investors Meet

'ASCEND 2020'. The meet was held from 9-10 January 2020 in Kochi, Kerala. It was organized by the Industries Department of the state government.

24) 50th Dadasaheb Phalke Award 2019 was given to whom?

- a) Manoj Kumar
- b) K. Viswanath
- c) Vinod Khanna
- d) Amitabh Bachchan

Answer: D

Bollywood's megastar Amitabh Bachchan was honoured with Dadasaheb Phalke award 2019.

25) What is the rank of India in Brand Finance Nation Ranking 2019?

- a) 7th
- b) 9th
- c) 11th
- d) 2nd

Answer: A

According to the latest report by Brand Finance, India jumped to 7th position in the Brand Finance Nation Brands 2019 ranking, up from 9th last year.

26) Madhavpur Mela is held in which state?

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

RRB NTPC Memory Based Model Paper Based on Jan 19 Exam

Answer: A

The famous Madhavpur Mela is organised at Madhavpur Ghed of Porbandar district in Gujarat. Madhavpur Mela of Gujarat shares its connect to the Mishmi Tribe of Arunachal Pradesh.

27) Who was awarded the Nobel Prize 2020 in Economics?

- a) Roger Penrose
- b) Paul R. Milgrom
- c) Robert B. Wilson
- d) Both b and c

Answer: D

The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2020 was awarded jointly to Paul R. Milgrom and Robert B. Wilson "for improvements to auction theory and inventions of new auction formats."

28) Tora Bora Mountains is in which country?

- a) Indonesia
- b) Afghanistan
- c) India
- d) Bhutan

Answer: B

Tora Bora is a cave complex, part of the Safed Koh mountain range of eastern Afghanistan.

29) Which freedom fighter died in Bengal at the age of 18 years?

- a) Khudiram Bose

b) Bal Gangadhar Tilak

c) Lala Lajpat Rai

d) Bhagat Singh

Answer: A

Khudiram Bose was a freedom fighter born in a village in Medinipur district of West Bengal. Khudiram Bose was arrested and later he was sentenced to death. He was only 18, when he was hanged at the Muzaffarpur Jail.

30) Which one of the following acid is present in Onions?

- a) Boric Acid
- b) Carbonic Acid
- c) Hydrochloric Acid
- d) sulfenic acid

Answer: D

Onions contain amino acid sulfoxides that form sulfenic acids in the onion cells. Both the enzymes and the sulfenic acids are kept separately in the cells.

31) World Chess Championship 2018 was held in_____.

- a) London, United Kingdom
- b) Paris, France
- c) Havana, Cuba
- d) Moscow, Russia

Answer: A

The World Chess Championship in 2018 was a match between the reigning world champion since

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2013, Magnus Carlsen, and the challenger Fabiano Caruana to determine the World Chess Champion. It was held in London, United Kingdom.

32) Bombay was renamed as Mumbai in which year?

- a) 1992
- b) 1990
- c) 1995
- d) 1998

Answer: C

Mumbai is the capital city of the Indian state of Maharashtra. The Union government in 1995 had changed the city's name from Bombay to Mumbai.

33) International Literacy Day 2020 was observed on_____.

- a) 11th May
- b) 9th March
- c) 8th September
- d) 7th August

Answer: C

International Literacy Day 2020 was observed on 8 September across the globe to promote and support the development of literacy and skills, universal access to quality education, and learning opportunities throughout people's lives.

34) Who is the current Chief minister of Odisha?

- a) YS Jagan Mohan Reddy
- b) Pema Khandu
- c) Sarbananda Sonowal

d) Naveen Patnaik

Answer: D

Naveen Patnaik is an Indian politician serving as the current and 14th Chief Minister of Odisha. He is also the president of the Biju Janata Dal.

35) Who is the CEO of Mastercard?

- a) Ajaypal Singh Banga
- b) Rajeev Suri
- c) Shantanu Narayen
- d) Dinesh Paliwal

Answer: A

Ajaypal Singh Banga is an Indian-American business executive. He is currently CEO of Mastercard.

36) Who is the Brand ambassador of Bajaj Allianz?

- a) Ranveer Singh
- b) Sharukh Khan
- c) Arjun Kapoor
- d) Ayushmann Khurana

Answer: D

Bajaj Allianz Life appointed Bollywood actor Ayushmann Khurana as its brand ambassador to promote its products and digital services across offline and online mediums.

37) The 2020 G20 summit took place in_____.

- a) Bonn, Germany
- b) Riyadh, Saudi arabia
- c) Moscow, Russia
- d) Paris, France

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Answer: B

The 2020 G20 Riyadh summit was the fifteenth meeting of Group of Twenty. It was scheduled to take place in Riyadh, the capital city of Saudi Arabia, on 21–22 November 2020. However, due to the COVID-19 pandemic, it was held virtually.

38) Who was the first Viceroy of India?

- a) Lord Curzon
- b) Lord Canning
- c) Warren Hastings
- d) Lord Dalhousie

Answer: B

Charles John Canning was an English statesman and Governor-General of India during the Indian Rebellion of 1857 and the first Viceroy of India.

39) What is the full form of CLI?

- a) command line interface
- b) common length internet
- c) command line index
- d) command line information

Answer: A

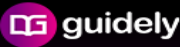
Command Line Interface is a user-friendly interface. It is mostly used in network device management. Using Command Line Interface, user can easily communicate to any component in a computer, hardware device, network device, operating system, and other applications.

40) What is the full form of FORTRAN?

- a) Formula Translation
- b) Front Translation
- c) File Transfer
- d) Formula Transformation

Answer: A


FORTRAN which stands for Formula Translation is a computer-programming language created in 1957 by John Backus that shortened the process of programming and made computer programming more accessible.



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