

RRB NTPC

Previous Years' Question Papers PDF



- C. (B)
D. (C)
Ans. D
Sol.



Conclusions:

- 1) Some bottles are red – (false)
 - 2) No box is red – (false)
 - 3) No bottle is red – (false)
 - 4) Some boxes are red – (false)
- All the above conclusions are false because there is no direct relation between the two given objects.
Hence, option D is correct.

12. Which of the following statements is/are true?
- I. Laurent Fabius was the President of the COP 21 UN Climate Change Conference held recently
 - II. Mr. Fabius is the Foreign Minister of France
 - III. Mr. Fabius is the Environment Minister of France
- (A) Only 1 (B) Only 2
(C) 1 and 2 (D) 1 and 3
- A. (D)
B. (B)
C. (C)
D. (A)

Ans. C

Sol.

- Laurent Fabius is a French politician.
- He is serving as President of the Constitutional Council **since 8th March 2016**.
- He previously served as Prime Minister of France from **17th July 1984 to 20th March 1986**.
- He also served in the government as Minister of Finance from 2000 to 2002 and Minister of Foreign Affairs from 2012 to 2016.

- He was the President of the **COP 21 UN Climate Change Conference** held in 2015.
- The 2015 United Nations Climate Change Conference or COP 21 was held in Paris, France, from **30th November to 12th December 2015**.

13. If two plane mirrors are kept at an angle of 120° to each other, then how many images will be formed?

- (A) 3 (B) 4
(C) 2 (D) 6
- A. (C)
B. (B)
C. (D)
D. (A)
- Ans. A

Sol.

$$\text{No. of images} = 360/x-1$$

$$\begin{aligned}\text{Hence,} \\ &= 360/120-1 \\ &= 3-1 \\ &= 2 \text{ images.}\end{aligned}$$

14. Given $k = -3$, $m = 1$ and $n = -4$. Find the value of $m\sqrt{k-n}$.

- (A) ± 1 (B) 1
(C) -1 (D) 0
- A. (D)
B. (B)
C. (C)
D. (A)
- Ans. B

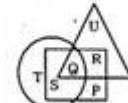
Sol.

$$\text{Given } k=-3, m=1, n=-4$$

$$m\sqrt{k-n} = 1\sqrt{-3+4} = 1$$

15. **Direction:** Study the following figure and answer the questions given below :

- Unmarried people
- People who live in nuclear family
- College professors



By which letter, the Unmarried

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Professors who live in nuclear family are represented?

(A) R (B) Q

(C) S (D) P

A. (B)

B. (C)

C. (A)

D. (D)

Ans. A

Sol.

The required portion should be common in all the three.

The respective letter is Q.

Hence, option A is correct.

16. By which letter, the people who live in nuclear family but are neither Unmarried nor Professors are represented?

(A) T (B) R

(C) Q (D) S

A. (C)

B. (B)

C. (A)

D. (D)

Ans. C

Sol.

The required letter is T.

Hence, option C is correct.

17. By which letter, the Unmarried people who live in nuclear family but not are College Professors are represented?

(A) R (B) U

(C) S (D) P

A. (C)

B. (A)

C. (B)

D. (D)

Ans. A

Sol.

The letter must be common in both circle as well as square.

Therefore the required letter is – 'S'

Hence, option A is the correct response.

18. Which of the following companies recently introduced portal for satellite monitoring of pipelines?

(A) IOCL (B) ONGC

(C) GAIL (D) Reliance

A. (C)

B. (D)

C. (B)

D. (A)

Ans. A

Sol.

• State-run energy major GAIL

(India) Limited has launched geo-portal called '**Bhuvan-GAIL Portal**' system for utilizing space technology for its pipeline monitoring to address pipeline safety concerns.

• Gail (India) Limited (GAIL) is formerly known as **Gas Authority of India Limited**.

• It is the largest state-owned natural gas processing and distribution company in India.

• It is headquartered in **New Delhi**.

• It was formed in **1984**.

$$\cot x = \frac{5}{12}$$

19. If $\frac{194}{169}$, then $\sin^2 x + 1 = ?$

$$(A) \frac{194}{169} (B) \frac{216}{65}$$

$$(C) \frac{331}{169} (D) \frac{313}{169}$$

A. (A)

B. (D)

C. (B)

D. (C)

Ans. B

Sol.

$$\cot x = \frac{B}{P} = \frac{5}{12}$$

$$H = \sqrt{P^2 + B^2} = \sqrt{169} = 13$$

$$\sin x = \frac{P}{B} = \frac{12}{13}$$

$$\sin^2 x + 1 = \left(\frac{12}{13}\right)^2 + 1 = \frac{144 + 169}{169} = \frac{313}{169}$$

20. Simplify : $y(3y - 1) - (3y - 1)$

(A) $3y^2 + 4y - 1$ (B) $3y^2 - 4y - 1$

(C) $3y^2 + 4y + 1$ (D) $3y^2 - 4y + 1$

A. (B)

B. (A)

C. (C)

D. (D)

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Ans. D

Sol.

$$\begin{aligned} & y(3y - 1) - (3y - 1) \\ &= 3y^2 - y - 3y + 1 \\ &= 3y^2 - 4y + 1 \end{aligned}$$

21. The value of $(0.1)^4 \div 0.1$ is
 (A) 0.1 (B) 0.01

(C) 0.001 (D) 1

- A. (B)
 B. (A)

- C. (C)
 D. (D)

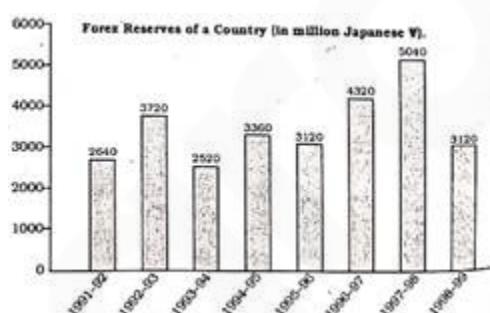
Ans. C

Sol.

$$(0.1)^4 \div 0.1 = 0.001$$

22.

Direction: Study the following graph and answer the questions given below :
 The bar graph given below shows the Forex reserves of a country (in million Japanese Y) from 1991-1992 to 1998-1999.



The Forex reserves in 1997-1998 was how many times that in 1994-1995?

(A) 0.7 (B) 1.2

(C) 1.4 (D) 1.5

- A. (D)
 B. (B)

- C. (C)
 D. (A)

Ans. A

Sol.

The Forex reserves in 1997-1998 =

5040

The Forex reserves in 1994-1995 =

3360

Ratio = $5040 / 3360 = 1.5$

23. The Forex reserves in 1996-1997 were approximately what per cent of the average Forex reserves over the period under review?

(A) 95% (B) 110%

(C) 115% (D) 125%

- A. (A)
 B. (B)

- C. (D)
 D. (C)

Ans. C

Sol.

the average Forex reserves over the period under review =
 $(2640+3720+2520+3360+3120+4320+5040+3120) / 8 = 3480$

Percent of the Forex reserves in 1996-1997 over the average Forex reserves =
 $4320/3480 \times 100 = 124.13\% =$
 approximate 125%

24.

For which year, the per cent increase of Forex reserves over the previous year, is the highest?

(A) 1992-1993 (B) 1993-1994

(C) 1994-1995 (D) 1996-1997

- A. (A)
 B. (D)

- C. (C)
 D. (B)

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Ans. A

Sol.

$$\text{The percent increase of Forex reserves in 1992-93 over 1991-92} = \frac{(3720 - 2640)}{2640} \times 100 \\ = \frac{1080}{2640} \times 100 \\ = 40.90\%$$

There is decrease in year 1993-94 over 1992-93.

$$\text{The percent increase of Forex reserves in 1994-95 over 1993-94} = \frac{(3360 - 2520)}{2520} \times 100 \\ = \frac{840}{2520} \times 100 = 33.33\%$$

$$\text{The percent increase of Forex reserves in 1996-97 over 1995-96} = \frac{(4320 - 3120)}{3120} \times 100 \\ = \frac{1200}{3120} \times 100 = 38.46\%$$

So, the percent increase of Forex reserves in 1992-93 over 1991-92 is highest.

25. Which is the world's first ever Dengue fever vaccine approved by Mexican Government?

(A) Dengue vaccine

(B) Dengvaxia

(C) Dengfev

(D) Dengucure

A. (D)

B. (B)

C. (C)

D. (A)

Ans. B

Sol.

• **The Government of Mexico** has approved the use of the first-ever vaccine (**Dengvaxia**) for dengue fever.

• The **Dengvaxia** vaccine is manufactured by the French drug maker **Sanofi**.

• **Dengue** is a viral disease that is transmitted by mosquitoes.

26. Consider the following information : ' \div ' means ' \times ', ' \times ' means '+', '+' means ' $-$ ' and ' $-$ ' means ' \div ' then find the value of

$$16 \times 3 + 5 - 2 \div 4 = ?$$

(A) 9 (B) 10

(C) 19 (D) 20

A. (A)

B. (D)

C. (B)

D. (C)

Ans. A

Sol.

symbol	\div	-	\times	+
meaning	\times	\div	+	-

$16 + 3 - 5 \div 2 \times 4$ (applying BODMAS)

$$\Rightarrow 16 + 3 - 2.5 \times 4$$

$$\Rightarrow 16 + 3 - 10$$

$$\Rightarrow 19 - 10$$

$$\Rightarrow 9$$

Hence, option A is correct.

27. Two numbers are in the ratio 7 : 9 and their HCF is 12. Their LCM is :

(A) 756 (B) 84

(C) 108 (D) 765

A. (C)

B. (D)

C. (A)

D. (B)

Ans. C

Sol.

let the numbers are $7x$ and $9x$ respectively

Given is , HCF = 12

Now, HCF of the numbers will be = x

Then, $x=12$

LCM of numbers= $63x$

$LCM = 63 * 12 = 756$

28. The cash difference between the selling price of an article at a profit of 8% and 14% is Rs. 3. The ratio of two selling prices is :

(A) 18 : 19 (B) 17 : 19

(C) 19 : 21 (D) 18 : 21

A. (C)

B. (A)

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- C. (D)
D. (B)

Ans. B

Sol.

Let the cost price = 100 units
At 8% profit, selling price (SP_1)= 108 units
At 14% profit selling price(SP_2) =114 units
Ratio of SP_1 and SP_2 = 108 : 114
= 18 : 19

29. Protein synthesis occurs in which of the following?

- (A) Endoplasmic reticulum
(B) Nucleolus
(C) Ribosome
(D) Lysosomes

- A. (D)
B. (B)
C. (C)
D. (A)

Ans. C

Sol.

• Protein synthesis occurs in cellular structures called **ribosomes**, found outside the nucleus.

• The process by which genetic information is transferred from the nucleus to the ribosomes is called **transcription**.

• During transcription, a strand of ribonucleic acid (RNA) is synthesized.

30. Read the statements and select a Conclusion from the given alternatives :
Statements :

Steel Authority of India Limited Company has moved India from a position of shortage to self-sufficiency in the steel.

Conclusions :

- I. Previously India had to import Steel
II. In this regard, it can soon become a foreign exchange earner.

- (A) Only Conclusion I follows
(B) Only Conclusion II follows
(C) Either I or II follows
(D) Neither I nor II follows

- A. (A)
B. (B)
C. (D)
D. (C)

Ans. A

Sol. Steel Authority of India Limited Company has moved India from a position of shortage to self-sufficiency in the steel which implies previously India had to import Steel.

Hence, option A is correct.

31. Which of the following is a part of study of human sciences?

- (A) Ornithology (B) Anthropology
(C) Ichthyology (D) Cosmetology

- A. (C)
B. (D)
C. (B)
D. (A)

Ans. C

Sol.

• **Ornithology** is a branch of zoology that concerns the study of birds.

• **Anthropology** is the scientific study of humans, human behavior and societies in the past and present.

• **Ichthyology** is known as fish science.

• **Cosmetology** is the study and application of beauty treatment.

32. A shopkeeper cheats to the extent of 23% while buying and selling fruits, by using tampered weights. His total gain in percentage is _____.

- (A) 51.25 (B) 51.29
(C) 51.75 (D) 51.5

- A. (D)
B. (C)
C. (B)
D. (A)

Ans. C

Sol.

A shopkeeper cheats to the extent of 23% while buying and selling fruits

$$\text{So, net gain \%} = 23 + 23 + 23 \times 23 / 100 = 51.29 \%$$

33. Mr. Sinha invested money in FD. How much will he get on maturity. If Rs.

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15500 is invested at 20% per annum compound interest for 6 months, compounded quarterly?

- (A) Rs. 17088.5 (B) Rs. 17088.75
 (C) Rs. 17088.35 (D) Rs. 17088

A. (B)
 B. (C)

C. (D)
 D. (A)

Ans. A

Sol.

Interest is compounded quarterly.
 So, rate = $20/4 = 5\%$
 Time period = 6 month = 2 quarter
 Principal (P) = 15500 Rs.
 $A = P(1+r/100)^n = 15500(1+5/100)^2 = 15500 \times (21/20)^2 = 17088.75$ Rs.

34. Which of the following states has a bicameral legislature?

- (A) Chhattisgarh (B) Goa
 (C) Jharkhand (D) Maharashtra

A. (C)
 B. (B)

C. (D)
 D. (A)

Ans. C

Sol.

- Seven Indian states, Andhra Pradesh, Bihar, Karnataka, Maharashtra, Telangana, Uttar Pradesh and Jammu & Kashmir, have bicameral Legislatures.

- In these states the upper house is called State **Legislative Council (Vidhan Parishad).**

35. Two buses start from a house with a speed of 4km/hr at interval of 6 minutes. With how much more speed (km/hr.) the woman coming from the opposite direction towards the house has to travel to meet the buses at an interval of 4 minutes?

(A) 5 (B) 3

(C) 2 (D) 4

A. (A)
 B. (D)

C. (C)
 D. (B)

Ans. C

Sol.

Distance travelled by one bus in 6 min. = $4 \times (6/60) = 0.4$ km
 Let speed of woman = S km/hr
 Relative speed of woman = $(4+S)$ km/hr
 0.4km distance is travelled by woman in 4min.
 $0.4 = (4+S)(4/60)$
 $S = 2$ km/hr

36. Consider the following information : A stands for +, B stands for -, C stands for \times then find the value of $(10 C 4) A (4 C 4) B 6$?

(A) 60 (B) 56

(C) 50 (D) 46

A. (A)
 B. (D)

C. (B)
 D. (C)

Ans. D

Sol.

letter	A	B	C
meaning	+	-	\times

$$(10 \times 4) + (4 \times 4) - 6 \text{ [applying BODMAS]}$$

$$\Rightarrow 40 + 16 - 6$$

$$\Rightarrow 56 - 6$$

$$\Rightarrow 50$$

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Hence, option D is correct.

37. According to the recent survey on 'Index of Ignorance' conducted by IPSoS, India is placed at which position among the most ignorant nations in the world?

(A) 3rd (B) 4th

(C) 5th (D) 2nd

- A. (A)
B. (D)

- C. (B)
D. (C)

Ans. B

Sol.

• According to the survey on 'Index of Ignorance' conducted by IPSoS, India is placed at **second position** among the most ignorant nations in the world.

• This report was released in **2015**.

• The rankings of the nations were based on the "**Index of Ignorance**".

38. The Kudankulam nuclear plant has 2 reactors to generate ___ of power.

(A) 500 MW (B) 1000 MW

(C) 2000 MW (D) 1500 MW

- A. (C)
B. (B)
C. (A)
D. (D)

Ans. A

Sol.

• The Kudankulam nuclear plant has 2 reactors to generate **2000 MW** of power.

• Kudankulam Nuclear Power Plant is the single largest nuclear power station in India.

• It is situated in Koodankulam in the **Tirunelveli, Tamil Nadu**.

• Construction on the plant began on **31st March 2002**.

39. Read the statements and select a Conclusion from the given alternatives : Statements :

Today in the world population of several thousand billion, the majority of women have to live under men who refuse them personal liberty and the right to dissent.

Conclusions :

I. Women are indifferent to personal liberty and right to dissent

II. Women desire personal liberty and right to dissent.

(A) Only Conclusion I follows

(B) Only Conclusion II follows

(C) Either I or II follows

(D) Neither I nor II follows

- A. (D)
B. (B)

- C. (A)
D. (C)

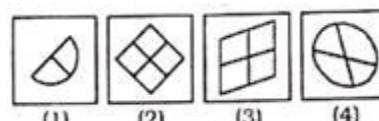
Ans. B

Sol.

Majority of women have to live under men who refuse to give them personal liberty and the right to dissent which implies that women desires personal liberty and right to dissent.

Option B is correct response.

40. Choose the figure which is different from the rest three :



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(A) 1 (B) 2

(C) 3 (D) 4

A. (B)

B. (A)

C. (C)

D. (D)

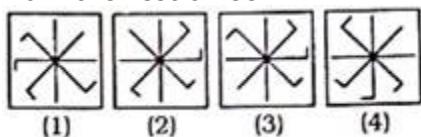
Ans. D

Sol.

Except figure 4, in all the three figures there is equal division of parts.

Hence, option D is odd one out.

41. Choose the figure which is different from the rest three :



(A) 1 (B) 2

(C) 3 (D) 4

A. (C)

B. (A)

C. (B)

D. (D)

Ans. C

Sol. Only option 4 the lines are in clockwise direction.

42. A small city with limited geographical area generally uses ___ for computer networking.

(A) CAN (B) MAN

(C) LAN (D) WAN

A. (C)

B. (A)

C. (B)

D. (D)

Ans. B

Sol.

- A small city with limited geographical area generally uses **CAN for computer networking**.

- A **campus area network (CAN)** is a network of multiple interconnected local area networks (LAN) in a limited geographical area.

- A CAN is smaller than a wide area network (WAN) or metropolitan area network (MAN).

- A CAN is also known as a **corporate area network (CAN)**.

43. Which of the given four numbers is a prime?

(A) 77 (B) 87

(C) 83 (D) 81

A. (B)

B. (D)

C. (C)

D. (A)

Ans. C

Sol.

Prime numbers are the number which is divisible by only 1 and itself.

So, here 83 is prime number.

44. The mean of first 49 natural numbers is :

(A) 25.5 (B) 25

(C) 26 (D) 26.5

A. (B)

B. (A)

C. (C)

D. (D)

Ans. A

Sol.

First 49 natural numbers are

1, 2, 3, 48, 49

Mean of first n natural numbers = (First term + last numbers)/2

(1+49)/2=25

45. If $\sin A = \frac{4}{5}$ and $\sin B = \frac{5}{13}$, then $\cos(A+B) = ?$

(A) $\frac{16}{65}$ (B) $\frac{63}{65}$

(C) $\frac{33}{65}$ (D) $\frac{56}{65}$

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- A. (B)
- B. (A)
- C. (D)
- D. (C)

Ans. B

Sol.

Given $\sin A = 4/5$ than $\cos A = 3/5$
 And $\sin B = 5/13$ than $\cos B = 12/13$
 $\cos(A+B) = \cos A \cos B - \sin A \sin B$
 $= 3/5 \times 12/13 - 4/5 \times 5/13 = (36-20)/65 = 16/65$

46. In a certain language, SEVEN is coded as TFWFO, how is EIGHT coded in that code?

- (A) HUIFJ (B) FJHIU
- (C) IUFJH (D) UIFJH

A. (A)

B. (C)

C. (D)

D. (B)

Ans. D

Sol.

S	E	V	E	N
+1	+1	+1	+1	+1
T	F	W	F	O

Similarly,

E	I	G	H	T
+1	+1	+1	+1	+1
F	J	H	I	U

Hence, option D is correct.

47. In a certain code language, if GREECE is coded as 634454 and PART is coded as 7231, then TERRACE will be coded as?

- (A) 1433524 (B) 1433254
- (C) 4133254 (D) 4133425

A. (D)

B. (C)

C. (B)

D. (A)

Ans. C

Sol.

G	R	E	E	C	E
6	3	4	4	5	4

P	A	R	T
7	2	3	1

Similarly,

T	E	R	R	A	C	E
1	4	3	3	2	5	4

Option C is correct.

48. Solve : $x - 16 = 16 - 2x$

$$\frac{-10}{3} \quad \frac{10}{3}$$

(A) $\frac{-10}{3}$ (B) $\frac{10}{3}$

- (C) 0 (D) 32

A. (A)

B. (D)

C. (C)

D. (B)

Ans. D

Sol.

$$x - 16 = 16 - 2x$$

$$3x = 32$$

$$x = \frac{32}{3} = \frac{10}{3}$$

49. Four words are given below out of which three are alike in some manner and one is different. Which is different from the rest?

- (A) Cap (B) Turban
- (C) Helmet (D) Veil

A. (D)

B. (C)

C. (B)

D. (A)

Ans. A

Sol.

Option A is odd one out.

50. Which of the following statements is true?

(A) Manures are generally added before the seeds are sown

(B) Manures can cause harmful effects to the soil

(C) Fertilizers can be used for any crop

(D) Manures are non-voluminous

A. (C)

B. (D)

C. (A)

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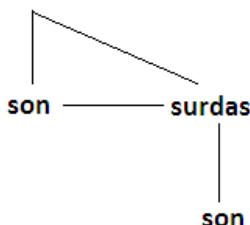
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- (C) Father (D) Grandfather
 A. (D)
 B. (C)
 C. (B)
 D. (A)

Ans. B

Sol.

old man



Old man is the father of surdas.

Option B is correct.

56. The Wellington trophy is associated with which of the following sport?
 (A) Polo (B) Yachting

- (C) Rowing (D) Shooting

- A. (D)
 B. (C)
 C. (A)
 D. (B)

Ans. B

Sol.

• Wellington Trophy is associated with **Rowing**.

• Rowing is a sport that involves using a wooden paddle, known as an oar, to propel a long boat through water at high speeds in order to win a race.

57. Mr. Ravi sold a bus for Rs. 2380 with a loss of 15%. At what price should the bus be sold to get a profit of 15%?

- (A) Rs. 3210 (B) Rs. 3230
 (C) Rs. 3260 (D) Rs. 3220

- A. (C)
 B. (B)

- C. (A)
 D. (D)

Ans. D

Sol.

Selling price of bus = Rs. 2380
 At 15% loss, cost
 $\text{price} = 2300 \times 100 / 85 = \text{Rs. 2800}$
 At 15% profit, selling price of bus
 $= 2800 \times 115 / 100 = \text{Rs. 3220}$

58. What is the dimension of a lawn-tennis court for doubles matches?

- 78feet 78feet**
 (A) **36feet** (B) **30feet**

- 76feet 78feet**
 (C) **32feet** (D) **27feet**

- A. (D)
 B. (C)
 C. (A)
 D. (B)

Ans. A

Sol.

- The basic dimensions of a tennis court are **78 feet in length and 27 feet in width**.
- Its width is 27 feet (8.23 metres) for singles matches and 36 feet (10.97 metres) for doubles matches.

59. Which of the following activities took place during 1025 AD?

- (A) Construction of temple of Mahabalipuram
 (B) Destruction of temple of Somnath
 (C) Invasion of India by Timur Lang
 (D) Accession of Chandragupta Maurya

- A. (D)
 B. (B)
 C. (A)
 D. (C)

Ans. B

Sol.

- In 1025, during the reign of Bhima I, the prominent Turkic ruler Mahmud of Ghazni raided Gujarat.

- Mahmud of Ghazni raided the **Somnath temple located in Prabhas Patan** on the western coast of Gujarat.

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- He was the first independent ruler of the Ghaznavid dynasty from 998 to 1030.
- It is believed to be the first among the twelve jyotirlinga shrines of Shiva.

60. Statue of Lord Bahubali (religious guru of Jains) is also known by the name of _____.

- (A) Statue of Gomateshwara
 - (B) Statue of Udayagiri
 - (C) Statue of Borobudur
 - (D) Statue of Pavapuri
- A. (B)
B. (C)
C. (A)
D. (D)

Ans. C

Sol.

- Statue of Lord Bahubali (religious guru of Jains) is also known by the name of **Statue of Gomateshwara**.

- Gommata giri is an acclaimed Jain centre.
- It is erected atop a 50-metre (160 ft) tall hillock called 'Shravana Gudda'.
- It was constructed in the **10th century AD**.

- Chamundaraya, the minister and commander of the Ganga dynasty is credited to have this statue.

61. According to World Bank, what Is the approximate land utilization percentage of India for agriculture purposes?

- (A) 48 (B) 70

- (C) 60 (D) 53

- A. (B)
B. (D)

- C. (A)
D. (C)

Ans. D
Sol.

- Agricultural land in India was reported at **60.45 % in 2015**, according to the World Bank collection of development indicators, compiled from officially recognized sources.

- World Development Indicators (WDI) is the World Bank's premier compilation of cross-country comparable data on development.

62. The principle of changing magnetic field which produces an electric current in a wire is used in _____.

- (A) Electric bell
 - (B) Electric generator
 - (C) Electromagnets
 - (D) Magnetic compass
- A. (A)
B. (B)
C. (C)
D. (D)

Ans. B

Sol.

- The principle of changing magnetic field which produces electric current in a wire is used in **Electric Generator**.

- When electricity passes through the wire, the metal becomes magnetic and creates a magnetic field.

- The coils of wire of the generators are conductors, and when the electrons in the wires are exposed to changing magnetic fields, they move, creating an electric current in the wires.

63. _____ is responsible for regulating blood calcium levels.

- (A) Bones
 - (B) Parathyroid hormone
 - (C) Muscles
 - (D) Liver
- A. (A)
B. (D)
C. (B)
D. (C)

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Ans. C

Sol.

- **Parathyroid hormone (PTH)** is responsible for regulating blood calcium levels.

• PTH increases blood calcium levels by stimulating osteoclasts, which break down bone to release calcium into the blood stream.

64. The Lion Capital (National Emblem of India) was built during _____.

(A) The Mughal Empire

(B) The Mauryan Empire

(C) The Gupta Empire

(D) The Buddhism/Jainism Period

A. (B)

B. (D)

C. (A)

D. (C)

Ans. A

Sol.

• The Lion Capital (National Emblem of India) was built during the **Maurayan Empire**.

• The National Emblem of India is adapted from **Ashoka's Lion Capital situated at Sarnath**.

• It was officially adopted on the day India became a republic, **January 26, 1950**.

65. The opposite angle in a cyclic quadrilateral adds up to ___ degree

(A) 270 (B) 90

(C) 180 (D) 360

A. (A)

B. (D)

C. (C)

D. (B)

Ans. C

Sol.

We know that in cyclic quadrilateral opposite angles are supplementary angle.

So, sum of opposite angles = 180°

66. Chinese pilgrim Fa-Hein Visited India during the period of which ruler?

(A) Samudragupta

(B) Chandragupta I

(C) Kumaragupta

(D) Chandragupta II

A. (A)

B. (C)

C. (B)

D. (D)

Ans. D

Sol.

• **Fa-Hein's** visit to India occurred during the reign of **Chandragupta II**.

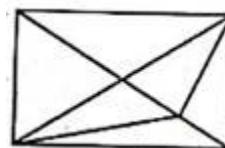
• He is also renowned for his pilgrimage to **Lumbini, the birthplace of Gautama Buddha**.

• He claimed that demons and dragons were the original inhabitants of Sri Lanka.

• He was the famous **Chinese philosophe** the traveler.

67. Look carefully at the figure given below :

The total number of triangles in the figure is :



(A) 11 (B) 13

(C) 15 (D) 17

A. (B)

B. (A)

C. (C)

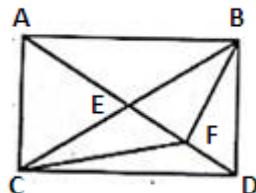
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D. (D)

Ans. C

Sol.



The triangles formed in the above figure is – ADC, ADB, ABC, BCD, AEC, AEB, AFC, AFB, BFC, BEF, CEF, CDE, BDE, BFD, CFD

Total number of triangles is – 15

Option C is correct.

68.Which of the following keys should be pressed simultaneously for highlighting the text to the default font?

(A) Ctrl + Home

(B) Ctrl + Space bar

(C) Ctrl + Shift + Z

(D) Ctrl + Alt + F2

A. (D)

B. (A)

C. (C)

D. (B)

Ans. D

Sol.

• In computer, a Control key is a modifier key which, when pressed in conjunction with another key, performs a certain action.

• **Ctrl + Spacebar** is used to reset highlighted text to the default font.

• **Ctrl + Home** is used to move the cursor to the beginning of the document.

69.What is Kuiper belt?

(A) Planetary bodies that orbit around Jupiter

(B) A type of Galaxy

(C) Icy Planetary bodies that orbit around Neptune

(D) A type of constellation

A. (A)

B. (C)

C. (B)

D. (D)

Ans. B

Sol.

• Just outside of Neptune's orbit is a ring of icy bodies, is called as the **Kuiper Belt**.

• The Kuiper belt is occasionally called the **Edgeworth-Kuiper belt**.

• It is a circumstellar disc in the outer Solar System, extending from the orbit of Neptune to approximately 50 AU from the Sun.

70.Which among the following is not a micronutrient for plants?

(A) Boron (B) Copper

(C) Iron (D) Nitrogen

A. (D)

B. (C)

C. (A)

D. (B)

Ans. A

Sol.

• **Nitrogen** is not a micronutrient for plants.

• The three macronutrients and the three elements which find in most packaged fertilizers are, Sulfur, calcium, and magnesium.

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- The Secondary nutrients are Boron, cobalt, copper, iron, manganese, molybdenum and zinc.
- Micronutrients are essential for plant growth and play an important role in balanced crop nutrition.

71. Benzoic acid is purified by _____.
(A) Distillation

(B) Sublimation
(C) Filtration

(D) Extraction
A. (A)
B. (C)
C. (D)
D. (B)

Ans. D

Sol.

- Benzoic acid gets converted into gas without converting into liquid after heating, thus it undergoes **sublimation**.
- Benzoic acid can be purified by recrystallization from water because of its high solubility in hot water and poor solubility in cold water.
- Benzoic acid is a colorless crystalline solid and a simple aromatic carboxylic acid.

72. Not servicing the vehicles results in incomplete combustion of carbonaceous matter in automobile engine which generates _____.
(A) Carbon monoxide

(B) Carbon dioxide

(C) Nitrous oxide

(D) Nitrogen dioxide
A. (C)
B. (B)
C. (A)
D. (D)

Ans. C

Sol.

- Incomplete combustion is also a reaction between oxygen and fuel but the products are carbon monoxide, water and carbon.

- Incomplete combustion occurs when a combustion reaction occurs without a sufficient supply of oxygen.

73. The term "Indian Independence Movement" or "Indian Freedom Struggle" encompasses _____.
(A) End of East India Company Rule (1757-1858) and British Raj (1858-1947)

(B) End of British Raj (1757-1947)

(C) End of East India Company Rule (1750-1836) and British Raj (1836-1947)

(D) End of British Raj (1612-1947)

- A. (D)
B. (B)
C. (C)
D. (A)

Ans. D

Sol.

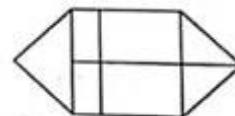
- The term "Indian Independence Movement" or "Indian Freedom Struggle" encompasses the end of **East India Company Rule (1757-1858) and British Raj (1858-1947)**.

- The Indian Independence movement was a series of activities with the ultimate aim of ending the British rule in India.

- The movement spanned total of 90 years (1857-1947).

74. Look carefully at the figure given below :

The total number of rectangles in the figure is :



(A) 10 (B) 9

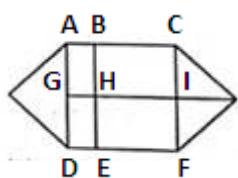
(C) 8 (D) 7

A. (D)
B. (A)

C. (C)
D. (B)

Ans. D

Sol.



The rectangles formed are – ACGI, ABGH, ACDF, ABDE, GHDE, GDIF, BCHI, BCEF, HIEF

Total rectangles are 9.

Option D is correct.

75. Which of the following countries celebrates 19th August at its "National Day"?

(A) Maldives (B) Bhutan

(C) Afghanistan (D) Sri Lanka

A. (C)
B. (A)

C. (B)
D. (D)

Ans. A

Sol.

- Afghan Victory Day is celebrated as a national holiday in Afghanistan on **19th August**.

- It is celebrated to commemorate the **Anglo-Afghan Treaty of 1919**.

- The treaty granted a complete neutral relation between Afghanistan and Britain.

76. A Sintex tank has two holes. The first hole alone makes the tank empty in 15 minutes and second hole alone makes the tank empty in 25 minutes. If water leaks out at a constant rate, how long in minutes does it take if both the holes together empty the tank?

(A) $\frac{3}{8}$ (B) $\frac{8}{3}$

(C) $\frac{9}{4}$ (D) $\frac{9}{8}$

A. (C)
B. (B)

C. (D)
D. (A)

Ans. C

Sol.

Let the total capacity of tank = lcm(15, 25)

Tank emptied by fist hole in 1 minute = $75/15 = 5$ lit.

Tank emptied by second hole in 1 minute = $75/25 = 3$ lit.

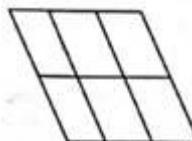
Tank emptied by both holes in 1 minute = $3+5=8$ lit.

Time taken to empty whole tank by both

holes together = $75/8 = \frac{9}{8}$

77. Look carefully at the figure given below:

The total number of parallelograms in the figure is :



(A) 20 (B) 18

(C) 16 (D) 12

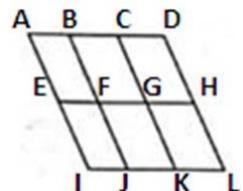
A. (C)
B. (A)

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- C. (D)
D. (B)

Ans. D
Sol.



The parallelograms formed in the above figure is- ABEF, ACGE, ADHE, ABJI, ACKI, ADLI, BCGF, BDHF, BCKJ, BDLJ, CDHG, CDLK, EFJI, EGKI, EHLI, FGKJ, FHJL, GHKL.

Total number of parallelograms is - 18

Option D is correct.

78. Manas is twice as good as workman as Manu and together they finish a piece of work in 21 days. In how many days will Manu alone finish the work?

- (A) 42 (B) 63

- (C) 84 (D) 25

- A. (A)
B. (D)

- C. (B)
D. (C)

Ans. C
Sol.

Ratio of efficiency of Mans and Manu=2:1

Together their efficiency=3

Together they finish work in 21 days,
So total work=21 x 3 =63

Time taken by Manu only to finish that work=Total work/Efficiency of Manu=63/1=63 days

79. A square has diagonals of length 22 cm. then the side of the square in cm is :

- (A) $11\sqrt{2}$ (B) $\pm 11\sqrt{2}$

- (C) 11 (D) $22\sqrt{2}$

- A. (D)
B. (A)

- C. (C)
D. (B)

Ans. B
Sol.

Let the length of side of square =a cm

$$\text{Length of diagonal} = \sqrt{2}a = 22 \text{ cm}$$

Length of side of square

$$a = \frac{22}{\sqrt{2}} = 11\sqrt{2}$$

80. Who among the following is the current Prince of UAE?

- (A) Mohammad-bin-Nayef

- (B) Mohammad-bin-Zayed al-Nayhan

- (C) Sheikh Jaben al-ahmad al sabah

- (D) Sheikh Sadd al-Abdullah al-Saleemn Al-Sabah

- A. (A)
B. (C)

- C. (D)
D. (B)

Ans. D
Sol.

• Sheikh Mohammed bin Zayed Al Nahyan is the Crown Prince of the Emirate of Abu Dhabi and Deputy Supreme Commander of the United Arab Emirates Armed Forces.

• In **November 2003**, his father Sheikh Zayed bin Sultan appointed Sheikh Mohamed as Deputy Crown Prince of Abu Dhabi.

• The United Arab Emirates (UAE) is a country in Western Asia.

• Abu Dhabi is the capital city of UAE.

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81. When did the first and second Anglo-Sikh war take place?

- (A) 1845-1850 and 1850-1851
- (B) 1843-1845 and 1846-1847
- (C) 1845-1846 and 1848-1849
- (D) 1850-1851 and 1852-1853

A. (B)

B. (A)

C. (D)

D. (C)

Ans. D

Sol.

• The First Anglo-Sikh War was fought between the Sikh Empire and the East India Company **between 1845 and 1846**.

• It resulted in partial subjugation of the Sikh kingdom and cession of Jammu and Kashmir as a separate princely state under British suzerainty.

• The second Anglo-Sikh war was fought **between 1848 and 1849**.

• This war led to the complete control of Punjab by the British.

82. If the product of two numbers is 4941 and their LCM is 81, then their HCF is :

- (A) 31 (B) 60
- (C) 45 (D) 61

A. (C)

B. (B)

C. (A)

D. (D)

Ans. D

Sol.

Given that product of two numbers = 4941
LCM = 81

We know that HCF × LCM = Product of two numbers

$$\text{HCF} = \frac{4941}{81} = 61$$

83. Pointing to Sam in a photograph Samridhi said, "His brother's father is the only son of my grandfather," How is Samridhi related to the Sam in the photograph?

- (A) Mother (B) Aunt

- (C) Sister (D) Daughter

A. (D)

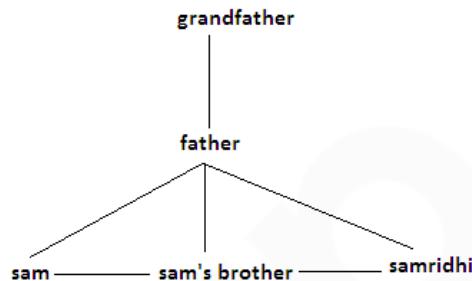
B. (B)

C. (A)

D. (C)

Ans. D

Sol.



Samridhi is the sister of sam.
Hence, option D is correct.

84. Read the statements and select a Conclusion from the given alternatives :
Statements :

The school managements has asked the four teachers either to resign by tomorrow or face forcible ejection.

Three of them have resigned till yesterday morning

Conclusions :

I. The teachers who did not resign yesterday will resign tomorrow

II. The school management will terminate the service of one teacher

(A) Only Conclusion I follows

(B) Only Conclusion II follows

(C) Either I or II follows

(D) Neither I nor II follows

A. (B)

B. (A)

C. (D)

D. (C)

Ans. D

Sol. From the second statement, three of them have already resigned. So, Only one person is left who is going to resign himself or the school management will terminate the service of him.

Hence, either of the conclusion follows.

85. Who among the following received Tenzing Norgay award for National Adventure 2015?

- (A) Jot Singh

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- (B) Babita Kumari
 (C) Abhilasha Mhatre
 (D) S. Satish Kumar
 A. (C)
 B. (A)
 C. (D)
 D. (D)

Ans. B
 Sol.

- ITBP official and mountaineer **Jot Singh** was honoured with the **Tenzing Norgay national adventure award** by President Pranab Mukherjee in 2015.

- The Tenzing Norgay National Adventure Award is the highest national recognition for outstanding achievements in the field of adventure on land, sea and air.
- A cash Award of Rs.5.00 lakh and a certificate of honour is given to each Awardee.

86. Divide Rs. 126 in the ratio 1 : 5 : 6 : 9. The rupees in the respective ratios are given by :

- (A) 6, 30, 35 and 55
 (B) 6, 30, 37 and 53
 (C) 6, 30, 36 and 54
 (D) 6, 31, 35 and 54
 A. (D)
 B. (C)
 C. (A)
 D. (B)

Ans. B
 Sol.

We have to divide 126 in ratio 1:5:6:9
 Sum of ratio=1+5+6+9=21

Now respective ratios

$$\frac{1}{21} \times 126 : \frac{5}{21} \times 126 : \frac{6}{21} \times 126 : \frac{9}{21} \times 126 \\ = 6:30:36:54$$

87. A fax bill costs Rs. 13 for 2 minutes 30 seconds. What is the cost in rupees for 3 minutes 20 seconds? (rounded to one decimal)
 (A) Rs. 17.3 (B) Rs. 17.2

- (C) Rs. 17.1 (D) Rs. 17.4

- A. (B)
 B. (D)
 C. (A)
 D. (C)

Ans. C

Sol.
 Fax cost for 2 min 30 seconds = 13 Rs.
 For 150 sec = 13 Rs.

$$\text{So for 1 sec} = \frac{13}{150}$$

Now cost for 3 min 20 sec = for 200 sec.

$$\frac{13}{150} \times 200 = \frac{52}{3} = 17.33$$

88. Spacecraft needs a speed of over _____ to escape Earth's gravity.

- (A) 40,000 km/hr. (B) 40,270 km/hr.

- (C) 42,326 km/hr. (D) 41,721 km/hr.
 A. (B)
 B. (A)
 C. (C)
 D. (D)

Ans. A

Sol.

- A Spacecraft needs a speed of over **40,270 km/hr** to escape Earth's gravity.
- The escape velocity is the minimum speed needed for a free, non-propelled object to escape from the gravitational influence of a massive body.
- The escape velocity from Earth is about 11.186 km/s (40,270 km/hr) at the surface.

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89. Read the statements and select a Conclusion from the given alternatives :
Statements :

All fans are refrigerators
No refrigerator is a TV
All refrigerator are computers

Conclusions :

- 1) No fan is a TV
 - 2) No computer is a TV
 - 3) Some computers are TV
 - 4) All refrigerators are fans
- (A) None follows
(B) Only 1 and either 2 or 3 follow
(C) Only 1 and 3 follow
(D) Only 2 follow

A. (C)

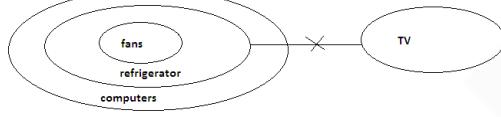
B. (D)

C. (B)

D. (A)

Ans. C

Sol.



Conclusions:

- 1) No fan is a TV – (true) as all fans are refrigerator and no refrigerator is TV.
 - 2) No computer is a TV – (False) – as there is no direct relation between them.
 - 3) Some computers are TV – (false) – no direct relation between them.
 - 4) All refrigerators are fans – (false)
- Hence, the correct option is C.

90. Who among the following won the Smart Green Leader Award for lifetime achievements in December 2015?

- (A) Ms. Surbhi Maheshwari
(B) Mr. K.V. Subramaniam
(C) Mr. Y.C . Deveshwar
(D) Mr. Guru Prasad Sastry

A. (B)

B. (A)

C. (D)

D. (B)

Ans. D

Sol.

• **K.V. Subramaniam** won the Smart Green Leader Award for lifetime achievements in December 2015.

- He is an Indian economist and the current Chief Economic Adviser to the Government of India.
- He was officially appointed to the position on **7th December 2018**.
- He is the **17th Chief Economic Adviser** to the Government of India.

91. Medical drugs work in the human body by which of following?

- (A) Correcting chemical reactions within the body responsible for diseases
(B) Diverting chemical reactions within the body responsible for diseases.
(C) Fastening chemical reactions within body responsible for disease
(D) Slowing chemical reactions within body responsible for disease
- A. (C)
B. (A)
C. (D)
D. (B)

Ans. B

Sol.

- Medical drugs work in human body by correcting chemical reactions within the body responsible for diseases.
- Some drugs replace missing substances or correct low levels of natural body chemicals such as some hormones or vitamins.

92. For printing MICR characters, the ink used contains which of following?

- (A) Lead oxide (B) Graphite
(C) Cuprous oxide (D) Iron oxide
- A. (D)
B. (A)
C. (C)
D. (B)

Ans. A

Sol.

- **MICR** characters are printed on documents in one of the two MICR fonts, using magnetizable (commonly known as magnetic) ink or toner, usually containing **iron oxide**.
- Magnetic ink character recognition code, known in short as **MICR code**.
- It is a character recognition technology.

93. Who was the first person to talk in space?

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- (A) Neil Armstrong
 (B) Rakesh Sharma
 (C) Alexei Leonov
 (D) Johannes Kepler
 A. (D)
 B. (B)
 C. (C)
 D. (A)
 Ans. C

Sol.

- **Alexei Leonov** was the first person to talk in space.
- He is a retired **Russian** cosmonaut, Air Force Major general and writer.
- On **18th March 1965**, he became the first human to conduct extravehicular activity (EVA), exiting the capsule during the **Voskhod 2 mission** for a 12-minute spacewalk.
- In July 1975, He commanded the Soyuz capsule in the Soyuz-Apollo mission, which docked in space for two days with an American Apollo capsule.

94. If in a certain language, SUFFIX is coded as USFFXI, how is LONDON coded in that code?

- | | |
|-------------|------------|
| (A) OLDNNO | (B) LODNNO |
| (C) OLDONNN | (D) NNOLOD |
| A. (A) | |
| B. (B) | |
| C. (D) | |
| D. (C) | |

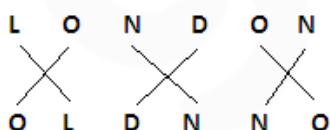
Ans. A

Sol.

In the above code language, all the two consecutive letters are interchanged to form the new word.



Similarly,



Hence, the correct response is option A.

95. The number of sides of a regular polygon whose interior angles are 156° each is :

- (A) 14 (B) 16
 (C) 15 (D) 17
 A. (D)
 B. (A)
 C. (B)
 D. (C)
 Ans. D

Sol.

Sum of interior angles of a regular polygon with n sides = $(n-2) \times 180^\circ$

Value of one interior angle

$$= \frac{(n-2)}{n} \times 180^\circ = 156^\circ$$

$$180^\circ \times n - 360^\circ = 156^\circ n$$

$$24n = 360^\circ$$

Number of sides

$$n = \frac{360^\circ}{24} = 15^\circ$$

96. Consider the following information : 'when' means 'x', 'you' means '÷', 'come' means '-' and 'will' means '+' then find the value of "8 when 12 will 16 you 2 come 10" ?

- (A) 45 (B) 94
 (C) 96 (D) 112
 A. (C)
 B. (D)
 C. (A)
 D. (B)
 Ans. D

Sol.

words	when	you	come	will
meaning	x	÷	-	+

$$8 \times 12 + 16 \div 2 - 10 \text{ (applying BODMAS)}$$

$$\Rightarrow 8 \times 12 + 8 - 10$$

$$\Rightarrow 96 + 8 - 10$$

$$\Rightarrow 104 - 10$$

$$\Rightarrow 94$$

Hence, option D is correct.

97. Navya takes 7 hours 20 minutes in walking a distance and riding back to same place where she started. She could walk both ways in 10 hours 40 minutes. The time taken by her to ride back both ways is :

- (A) 4 hours
 (B) 4 hours 35 minutes
 (C) 4 hours 45 minutes

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- (D) 4 hours 15 minutes
 A. (B)
 B. (D)
 C. (A)
 D. (C)

Ans. C

Sol.

Time taken to walk a distance and riding back to same place where she started = 7 hr 20 min = 440 min.

Time taken to walk both ways = 10 hr 40 min = 640 min

So time taken to walk that distance one

$$\frac{640}{2} = 320 \text{ min}$$

Time taken to ride that distance one way = 440 - 320 = 120 min

Therefore time taken to ride back both ways = $2 \times 120 = 240 \text{ min} = 4 \text{ hr}$

98. Mr. Prabhat borrowed Rs. 8000 at 5% per annum compound interest. The compound interest compounded annually for 2 years is :

- (A) Rs. 820 (B) Rs. 8820
 (C) Rs. 8802 (D) Rs. 802

A. (B)

B. (D)

C. (C)

D. (A)

Ans. D

Sol.

Principal = P = 8000 Rs.

Interest rate = r = 5% p.a.

Time = t = 2 year

Compound interest =

$$8000 \times \left(\frac{105}{100}\right)^2 - 8000 = 8820 - 8000 = 820 \text{ Rs.}$$

99. Read the statements and select a Conclusion from the given alternatives :

Statements :

Some chalks are bikes.

All bikes are orange

Some oranges are yellow

Conclusions :

- 1) All bikes are orange
 2) Some yellow are orange

- 3) Some bikes are yellow
 4) All oranges are bikes
 (A) Only either 1 or 4 and 3 follow
 (B) Only either 1 or 4 follows
 (C) Only either 1 or 4 and 2 follow
 (D) Only 2 follows

A. (B)

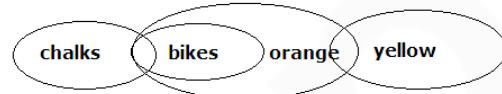
B. (D)

C. (C)

D. (A)

Ans. B

Sol.



Conclusions:

- 1) All bikes are orange – (true) given in the statement
 2) Some yellow are orange – (true) as you can see in the diagram.
 3) Some bikes are yellow – (false) as there is no direct relation between them
 4) All oranges are bikes – (false)

100. Petroleum minister Dharmendra Pradhan declared which of the following village as India's first smokeless village?
 (A) Tumkur, Andhra Pradesh
 (B) Vyachakurahalli, Karnataka
 (C) Guntur, Andhra Pradesh
 (D) Achattipura, Karnataka

A. (A)

B. (C)

C. (D)

D. (B)

Ans. D

Sol.

- **Vyachakurahalli** is a village in the southern state of Karnataka.
- On **Dec 8th, 2015**, This village was declared the **India's first smokeless village** by the Ministry of Petroleum and Natural Gas, Govt. of India.
- The country's first smokeless village Vyachakurahalli also entered into the **Limca Book of Records-2017**.

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