

**(General Awareness)**

Q.1 TV remote controls work on the principle of \_\_\_\_\_.

1. Bluetooth technology
2. Infrared waves
3. Ultrasonic waves
4. Laser technology

Correct Answer : Infrared waves

Q.2 A sustained rise in the general price level in an economy is called \_\_\_\_\_.

1. Stagflation
2. Disinflation
3. Deflation
4. Inflation

Correct Answer : Inflation

Q.3 Who founded the Indian Statistical Institute on 17 December 1931?

1. M.H. Hansen
2. R.A. Fischer
3. F. Yates
4. P.C. Mahalanobis

Correct Answer : P.C. Mahalanobis

Q.4 Kala Bhavana, founded in 1919, is a noted institution of education and research in visual arts. It is located in \_\_\_\_\_.

1. Uttar Pradesh
2. Bihar
3. Sikkim
4. West Bengal

Correct Answer : Sikkim

Q.5 In March 2019, who among the followings was appointed as India's first Lokpal?

1. Justice S A Bobde
2. Justice Pinaki Chandra Ghose
3. Justice N V Ramana
4. Justice A K Sikri

Correct Answer : Justice Pinaki Chandra Ghose

Q.6 Pramod Sawant became Chief Minister of which Indian state in March, 2019?

1. Tamil Nadu
2. Kerala
3. Goa
4. Maharashtra

Correct Answer : Goa

Q.7 \_\_\_\_\_ is the study of the microanatomy of cells, tissues and organs seen through a microscope.

1. Entomology
2. Paleontology
3. Ichthyology
4. Histology

Correct Answer : Histology

Q.8 Who was appointed as the director of Bhabha Atomic Research Centre (BARC) for a period of three years in March 2019?

1. Vishvapavan Pati
2. Satyajeet Rajan
3. Ajit Kumar Mohanty
4. Kamlesh Nilkanth Vyas

Correct Answer : Ajit Kumar Mohanty

Q.9 Government of India nominated member of NITI Aayog, \_\_\_\_\_ to head the Food and Agricultural Organisation (FAO) in March 2019.

1. Binay Ranjan Sen
2. Ramesh Chand
3. V K Paul
4. Amitabh Kant

Correct Answer : Ramesh Chand

Q.10 In March 2019, the government of India appointed \_\_\_\_\_ as the director-general of the National Archives of India.

1. P V Ramesh
2. V K Paul
3. Binay Sen
4. Kamlesh Vyas

Correct Answer : P V Ramesh

Q.11 In March 2019, India won five silver medals at the Makran Cup Boxing Tournament in Iran. Who among the following is NOT one of the silver medallists?

1. Manish Kaushik
2. Duryodhan Singh Negi
3. P Lalitha Prasad
4. Deepak Singh

Correct Answer : Deepak Singh

Q.12 Rust needs three components to occur, i.e., \_\_\_\_\_.

1. Steel, iron and oxygen
2. Helium, hydrogen and nitrogen
3. Iron, nitrogen and moisture
4. Iron, oxygen and moisture

Correct Answer : Iron, oxygen and moisture

Q.13 Who founded the Sayyid dynasty?

1. Bahlul Khan
2. Nizam Shah
3. Khizr Khan
4. Muhammad-bin-Farid

Correct Answer : Khizr Khan

Q.14 \_\_\_\_\_ was observed nationwide from 24th to 30th April, 2019.

1. World Tourism Week
2. World Immunization Week
3. World Environment Week
4. World Postal Week

Correct Answer : World Immunization Week

Q.15 Which of the following articles promotes equal justice and free legal aid for all the citizens?

1. 39A
2. 43A
3. 32A
4. 48A

Correct Answer : 39A

Q.16 Which of the following passes connects Tawang with Lhasa?

1. Bum La Pass
2. Chankan Pass
3. Hpungan Pass
4. Kumjawng Pass

Correct Answer : Bum La Pass

Q.17 \_\_\_\_\_ created history in its second Twenty20 International against Ireland by achieving the highest ever T20 total at the Rajiv Gandhi International Cricket Stadium in Dehradun, Uttarakhand.

1. Pakistan
2. Australia
3. Afghanistan
4. India

Correct Answer : Afghanistan

Q.18 Majuli, the largest river island in the world is located in

1. Uttar Pradesh
2. Nagaland
3. Arunachal Pradesh
4. Assam

Correct Answer : Assam

Q.19 The invasion of Delhi by Timur in \_\_\_\_ A.D marked the end of the Tughlaq empire.

1. 1452
2. 1645
3. 1215
4. 1398

Correct Answer : 1398

Q.20 \_\_\_\_\_ is a scientific discipline concerned with the study of plant pollen, spores, and certain microscopic planktonic organisms, in both, living and fossil form.

1. Ethnobotany
2. Dendrology
3. Paleobotany
4. Palynology

Correct Answer : Palynology

Q.21 Poush Mela displays local artisidisplaying folk dances, music, food and culture of \_\_\_\_\_.

1. Gujarat
2. Uttarakhand
3. Rajasthan
4. West Bengal

Correct Answer : West Bengal

Q.22 \_\_\_\_\_ is the branch of zoology concerned with the study of amphibians.

1. Ethology
2. Morphology
3. Mammology
4. Herpetology

Correct Answer : Herpetology

Q.23 \_\_\_\_\_ in Himachal Pradesh is a famous tourist attraction.

1. Rohtang Pass
2. Chang-La Pass
3. Aghil Pass
4. Mintaka Pass

Correct Answer : Rohtang Pass

Q.24 Who among the following was one of the Governors during the reign of Alauddin Khilji?

1. Ghiyasuddin Tughlaq
2. Shams-ud-din Iltutmish
3. Jalal-ud-din Khilji
4. Nasiruddin Mahmud

Correct Answer : Ghiyasuddin Tughlaq

Q.25 Which of the following passes is known as the gateway connecting Jammu and Srinagar?

1. Chang-La Pass
2. Banihal Pass
3. Aghil Pass
4. Lanak-La Pass

Correct Answer : Banihal Pass

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**(English Comprehension)**

Q.1 In the sentence identify the segment which contains the grammatical error. The street artist Satish Munjal has been painting this wall since the past one week.

1. since the past one week
2. has been painting
3. this wall
4. The street artist

Correct Answer : since the past one week

Q.2 Select the wrongly spelt word.

1. measure
2. meadow
3. megre
4. matter

Correct Answer : megre

Q.3 Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement.

The Head has been so busy to go through these files and resolve the matter.

1. No improvement
2. too busy to go through
3. too so busy to go through
4. such busy to go through

Correct Answer : too busy to go through

Q.4 Given below are four jumbled sentences. Select the option that gives their correct order.

- A. Canada accounts for nearly one-third of the world's production of news print.
- B. Forest products, therefore, have been important export items of Canada for more than a century.
- C. A large part of Canada is covered with coniferous trees.
- D. Pulp and paper are the two most important forest products.

1. ABCD
2. CBDA



3. DCAB

4. BACD

Correct Answer : CBDA

Q.5 Select the antonym of the given word.

FINITE

1. limited

2. finished

3. endless

4. bound

Correct Answer : endless

Q.6 Select the antonym of the given word.

REPRIMAND

1. compliment

2. apprehend

3. blame

4. reproach

Correct Answer : compliment

Q.7 Select the correct active form of the given sentence.

The wall of this park is being painted by children.

1. The wall is painting children of this park.

2. Children are painting the wall of this park.

3. Children have been painting the wall of this park.

4. Children painted the wall of this park.

Correct Answer : Children are painting the wall of this park.

Q.8 Select the most appropriate meaning of the given idiom.

Lead someone by the nose

1. to quarrel with someone
2. to dominate someone
3. to do the right thing
4. to force someone to take the blame

Correct Answer : to dominate someone

Q.9 Select the word which methe same as the group of words given. Persons living at the same time

1. contemporaries
2. compatriots
3. colleagues
4. cosmopolitans

Correct Answer : contemporaries

Q.10 Given below are four jumbled sentences. Select the option that gives their correct order.

- A. In China, thousands of people celebrated it.
- B. The Lunar New Year of the Pig began on 5th February.
- C. Others burned the first joss sticks of the year to bring them good fortune.
- D. Some performers re-enacted historical ceremonies.

1. BDCA
2. DABC
3. BADC
4. ABCD

Correct Answer : BADC

Q.11 Select the most appropriate option to fill in the blank.

In many countries the \_\_\_\_\_ in pay for men and women is quite common, for example, in Germany women are paid 21 per cent less as compared to men.

1. equivalence
2. disagreement

3. unlikeliness

4. disparity

Correct Answer : disparity

Q.12 Select the synonym of the given word.DUBIOUS

1. certain

2. steady

3. loyal

4. fishy

Correct Answer : fishy

Q.13 Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement.

You won't tell the secret, won't you?

1. isn't it

2. would you

3. No improvement

4. will you

Correct Answer : will you

Q.14 Select the wrongly spelt word.

1. remonstrate

2. rendezvous

3. remuneration

4. renaissance

Correct Answer : renaissance

Q.15 Select the synonym of the given word.

ENTICE

1. enrage

2. entrap

3. ensue

4. entail

Correct Answer : entrap

Q.16 Select the most appropriate option for blank No. 1.

**Comprehension:**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

In 1914 a war began in Europe which engulfed the entire world. The damage (1)\_\_\_\_\_ by this war has no precedent in history. (2)\_\_\_\_\_ the earlier wars, the civilian populations were (3)\_\_\_\_\_ not involved and the casualties were mostly (4)\_\_\_\_\_ to the warring armies. The war (5)\_\_\_\_\_ began in 1914 was a total war in which all the resources of the warring states were mobilized.

1. generated

2. made

3. caused

4. began

Correct Answer : caused

Q.17 Select the most appropriate option for blank No. 2.

**Comprehension:**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

In 1914 a war began in Europe which engulfed the entire world. The damage (1)\_\_\_\_\_ by this war has no precedent in history. (2)\_\_\_\_\_ the earlier wars, the civilian populations were (3)\_\_\_\_\_ not involved and the casualties were mostly (4)\_\_\_\_\_ to the warring armies. The war (5)\_\_\_\_\_ began in 1914 was a total war in which all the resources of the warring states were mobilized.

1. Into

2. At

3. In

4. On

Correct Answer : In

Q.18 Select the most appropriate option for blank No. 3.

**Comprehension:**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

In 1914 a war began in Europe which engulfed the entire world. The damage (1)\_\_\_\_\_ by this war has no precedent in history. (2)\_\_\_\_\_ the earlier wars, the civilian populations were (3)\_\_\_\_\_ not involved and the casualties were mostly (4)\_\_\_\_\_ to the warring armies. The war (5)\_\_\_\_\_ began in 1914 was a total war in which all the resources of the warring states were mobilized.

- |              |            |
|--------------|------------|
| 1. broadly   | 2. chiefly |
| 3. generally | 4. finally |

Correct Answer : generally

Q.19 Select the most appropriate option for blank No. 4.

**Comprehension:**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

In 1914 a war began in Europe which engulfed the entire world. The damage (1)\_\_\_\_\_ by this war has no precedent in history. (2)\_\_\_\_\_ the earlier wars, the civilian populations were (3)\_\_\_\_\_ not involved and the casualties were mostly (4)\_\_\_\_\_ to the warring armies. The war (5)\_\_\_\_\_ began in 1914 was a total war in which all the resources of the warring states were mobilized.

- |             |              |
|-------------|--------------|
| 1. belonged | 2. bound     |
| 3. confined | 4. retrained |

Correct Answer : confined

Q.20 Select the most appropriate option for blank No. 5.

**Comprehension:**

In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

In 1914 a war began in Europe which engulfed the entire world. The damage (1)\_\_\_\_\_ by this war has no precedent in history. (2)\_\_\_\_\_ the earlier wars, the civilian populations were (3)\_\_\_\_\_ not involved and the casualties were mostly (4)\_\_\_\_\_ to the warring armies. The war (5)\_\_\_\_\_ began in 1914 was a total war in which all the resources of the warring states were mobilized.

- |         |          |
|---------|----------|
| 1. what | 2. whom  |
| 3. who  | 4. which |

Correct Answer : which

Q.21 Select the correct passive form of the given sentence. Take this suitcase upstairs.

1. This suitcase should be taken upstairs.
2. You are requested to take this suitcase upstairs.
3. Let this suitcase been taken upstairs.
4. You must be taking this suitcase upstairs.

Correct Answer : This suitcase should be taken upstairs.

Q.22 Select the most appropriate meaning of the given idiom. Couch potato

1. a person who watches too much television
2. a person who is simple in nature
3. a person who sleeps all day
4. a person who remains relaxed and calm

Correct Answer : a person who watches too much television

Q.23 In the sentence identify the segment which contains the grammatical error. I know the cobbler which mends the shoes outside the gate of our colony.

1. I know the cobbler
2. which mends
3. the shoes
4. outside the gate

Correct Answer : which mends

Q.24 Select the most appropriate option to fill in the blank.

Catholics and Protestants have a long history of \_\_\_\_\_ in Northern Ireland but volunteers from both communities came together to build the monument of Peace.

- |            |              |
|------------|--------------|
| 1. contest | 2. agreement |
| 3. truce   | 4. conflict  |

Correct Answer : conflict

Q.25 Select the word which methe same as the group of words given.

Someone who believes that people cannot change the way events will happen

- |             |            |
|-------------|------------|
| 1. seer     | 2. fanatic |
| 3. fatalist | 4. prophet |

Correct Answer : fanatic

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## Reasoning

Q 1. Arrange the following words in a logical and meaningful order.

1. Writing
2. Distributing
3. Publishing
4. Printing
5. Editing

(A) 1, 2, 3, 4, 5

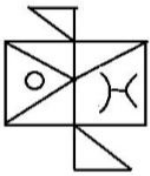
(B) 2, 4, 3, 1, 5

(C) 1, 5, 4, 3, 2

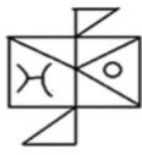
(D) 2, 3, 4, 5, 1

Ans.A

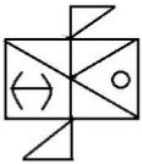
Q 2. Select the correct mirror image of the given figure when the mirror is placed to the right of the figure.



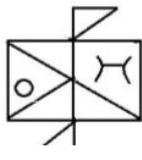
A



B



C



D

Ans.B

Q 3. ml fodYi dk p;u djsa tks rhjls in ls mlh izdkj lacaf/kr gS tSls nwlj in igys in ls lacaf/kr gSA

izlUu % vkuafnr %% mnkl %\

(A) larq"V

(B) fouksniw.kZ

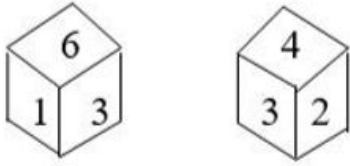
(C) fo"kkn&xzLr

(D) vkuaniw.kZ

Ans.C



Q 4. Two different positions of the same dice are shown. Which number will be at the top if 1 is at the bottom?



- (A) 6 (B) 5  
(C) 4 (D) 2

Ans.C

Q 5. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(12, 16, 18)

- (A) (9, 15, 21) (B) (20, 25, 35)  
(C) (18, 24, 42) (D) (36, 48, 77)

Ans.C

Q 6. Select the combination of letters that when sequentially placed in the gaps of the given letter series will complete the series.

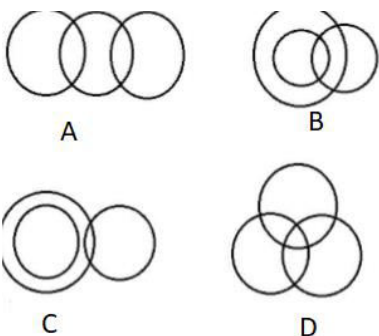
dc\_abc\_cb\_bcd\_ba\_c

- (A) bdacb (B) cbadb  
(C) bdcab (D) dbacb

Ans.A

Q 7. Select the Venn diagram that best illustrates the relationship between the following classes.

Doctors, Salaried persons, parents



Ans.D

Q 8. ftl izdkj ^xwaxkiu^ ^cksyus ^ ls lacaf/kr gS mlh izdkj ----- ^Le`fr ls lacaf/kr gSA

(A) Le`fr yksi

(B) igpku

(C) lksp&amp;fopkj

(D) Hkez

Ans.A

Q 9. Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out.

(A) BIRD

(B) DECK

(C) ZOOM

(D) PAST

Ans.C

Q 10. If POSTER is coded as 592314 and Dark is coded as 8647, then how will STAROKE be coded as?

(A) 234971

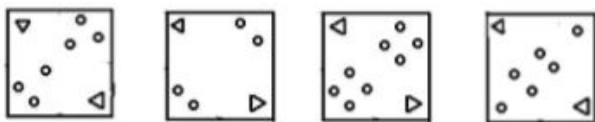
(B) 493287

(C) 329417

(D) 234917

Ans. A

Q 11. A square paper is folded and cut as shown below. How will it appear when unfolded?



A

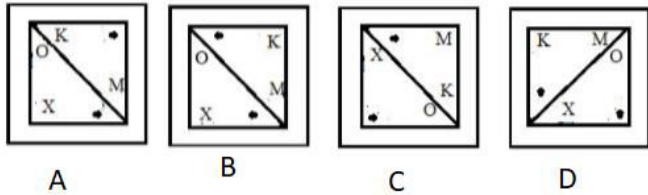
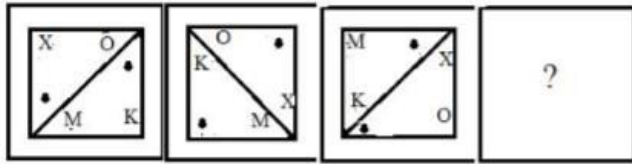
B

C

D

Ans.C

Q 12. Select the figure that will come next in the following figure series.



Ans.B

Q 13. Which two signs should be interchanged in the following equation to make it correct?

$$12 - 6 \div 12 \times 6 + 6 = 9$$

- (A) – and +                                      (B)  $\div$  and  $\times$   
 (C)  $\times$  and +                                     (D) + and  $\div$

Ans.A

Q 14. Two statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follows(s) from the statements.

Statements:

Some students are players.

Some players are athletes.

Conclusion:

I. Some students are athletes.

II. Some players are students.

III. No students is an athlete.

- (A) Only conclusion I follows  
 (B) Only conclusions II and III follow  
 (C) Only conclusion II and either conclusion I or III follow  
 (D) None of the conclusions follows

Ans.C

Q 15. Select the option that is related to the third letter-cluster in the same way as the second letter –cluster is related to the first letter-cluster

JKLM: HLKO:: PQRS:?

- (A) MRQV (B) NRQU  
(C) NQRU (D) ORQT

Ans.B

Q 16. How many triangles are there in the following figure?



- (A) 11 (B) 12  
(C) 15 (D) 13

Ans.C

Q 17. Three of the following four numbers are alike in a certain way and one is different. Pick the number that is different from the rest.

- (A) 341 (B) 132  
(C) 166 (D) 209

Ans.C

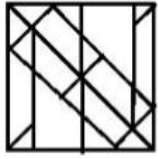
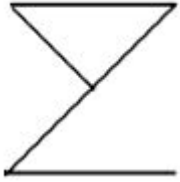
Q 18. Select the number- pair in which the two numbers are related in the same way as are the two numbers of the following number-pair.

28:63

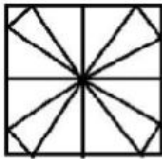
- (A) 16:36 (B) 36:78  
(C) 12: 28 (D) 48:98

Ans.A

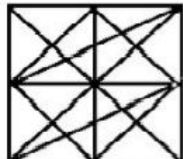
Q 19. Select the option in which the given figure is embedded.



A



B



C



D

Ans.C

Q 20. Rs 820 divided among 6 men, 8 women and 12 boys in such a way that every woman gets an amount equal to that received by one man and one boy combined and that every man gets one and a half times the amount received by a boy. What is the total amount received by 8 women?

- (A) Rs 300 (B) Rs 380  
(C) Rs 400 (D) Rs 240

Ans.C

Q 21. Three of the following four words are alike in a certain way and one is different. Pick the odd word out.

- (A) Papaya (B) Cucumber  
(C) Pomegranate (D) Guava

Ans.B

Q 22. In a family of eight persons, there are two couples, each having two children. C and D are cousin brothers. The father of E is married to G, who is the aunt of F. F's mother, H, is married to B, the brother of A. C is the nephew of H. How is A related to D?

- (A) Nephew (B) Father  
(C) Uncle (D) Brother

Ans.C

Q 23. Which number will replace the questions mark (?) in the following series?

2, 3, 6, 10, 17, 28, ?

(A) 45 (B) 46

(C) 43 (D) 39

Ans.B

Q 24. In a code language, TEACHING is written as SDBDGHOH. How will BOOKWORM be written as in that language?

(A) ANPLVNSN (B) ANPLXPSL

(C) CPNJXPSL (D) ANPLXNNS

Ans.A

Q 25. Select the set in which the numbers are related in the same way as are the numbers of the following set.

(15, 22, 31)

(A) (11, 18, 29) (B) (7, 14, 23)

(C) (5, 11, 20) (D) (23, 30, 40)

Ans.B

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## Mathematics

Q 1. If  $x^2 + y^2 + z^2 = 133$ ,  $xy + yz + zx = 114$  and  $xyz = 216$ , then the value of  $x^3 + y^3 + z^3$  is:

- (A) 942 (B) 948  
(C) 1009 (D) 999

Ans.C

Q 2. A trader marks his good at 40% above the cost price. He sells 70% of the goods at the marked price and the rest, he sells by allowing a 40% discount on the marked price. His percentage profit:

- (A) 23.4 (B) 24.4  
(C) 23.2 (D) 24.2

Ans.C

Q 3. The table shows the production of different types of cars (in thousands).

Year Car	2012	2013	2014	2015	2016
A	54	58	60	63	55
B	40	54	56	61	67
C	46	50	63	73	77
D	33	35	48	45	49
E	47	43	53	48	52

The total production of all types of cars, except type B, in 2012 is what percent less than the total production of all types of cars in 2016?

- (A) 42 (B) 25.8  
(C) 26.7 (D) 40

Ans.D

Q 4. The length of a metallic pipes is 7.56 m. Its external and internal radii are 2.5 cm and 1.5 cm respectively. If  $1 \text{ cm}^3$  of the metal weigh 7.5 g, then the weight of the pipe is: Taken  $\pi = \frac{22}{7}$

- (A) 70.14 kg (B) 71.28 kg  
(C) 72.82 kg (D) 69.68 kg

Ans.B

Q 5. In a circle with centre O, ACBO is a parallelogram where C is a point on the minor arc AB. What is the measure of  $\angle AOB$ ?

- (A)  $150^\circ$  (B)  $120^\circ$

(C)  $110^\circ$ (D)  $100^\circ$ 

Ans.B

Q.6 If  $2x^2 + y^2 + 6x - 2xy + 9 = 0$ , then the value of  $(4x^3 - y^3 + x^2y^2)$  is:

(A) -9

(B) 9

(C) 0

(D) -3

Ans.C

Q 7. ABCD is a parallelogram in which diagonals AD and BC intersect at O. AE and DF are perpendiculars on BC at E and F, respectively. Which of the following is NOT true?

(A)  $\triangle ABC \cong \triangle DCB$ (B)  $\triangle AEB \cong \triangle DFC$ (C)  $\triangle ADC \cong \triangle ABD$ (D)  $\triangle AOE \cong \triangle DOF$ 

Ans.C

Q.8 If  $\frac{\cos^2 \theta}{\cot^2 \theta - \cos^2 \theta} = 3, 0^\circ < \theta < 90^\circ$ , then the value of  $\cot \theta + \operatorname{cosec} \theta$  is:

(A)  $2\sqrt{3}$ (B)  $\sqrt{3}$ (C)  $\frac{\sqrt{3}}{2}$ (D)  $\frac{3\sqrt{3}}{4}$ 

Ans.B

Q 9. The vertices of a  $\triangle PQR$  lie on a circle with centre O. SR is a tangent to the circle at the Point R. IF QR bisects the  $\angle ORS$ , then what is the measure of  $\angle RPQ$ ?

(A)  $40^\circ$ (B)  $30^\circ$ (C)  $60^\circ$ (D)  $45^\circ$ 

Ans.D



Q 10. The table shows the production of different types of cars (in thousands).

Year \ Car	2012	2013	2014	2015	2016
A	54	58	60	63	55
B	40	54	56	61	67
C	46	50	63	73	77
D	33	35	48	45	49
E	47	43	53	48	52

What is the ratio of the total production of type E cars in 2014 and type C cars in 2016 taken together to the total production of type B cars in 2014 and type D cars in 2013 taken together?

- (A) 9:8 (B) 11:8  
(C) 10:7 (D) 11:5

Ans.C

Q 11. The Value of  $\frac{9}{15}$  of  $\left(\frac{2}{3} \div \frac{2}{3} \text{ of } \frac{3}{2}\right) \div \left(\frac{3}{4} \times \frac{3}{4} \div \frac{3}{4} \text{ of } \frac{4}{3}\right)$  of  $\left(\frac{5}{4} \div \frac{5}{2} \times \frac{2}{5} \text{ of } \frac{4}{5}\right)$  is:

- (A)  $\frac{4}{25}$  (B)  $\frac{20}{9}$   
(C)  $\frac{18}{125}$  (D)  $\frac{40}{9}$

Ans.D

Q 12. The table shows the production of different types of cars (in thousands)

Year \ Car	2012	2013	2014	2015	2016
A	54	58	60	63	55
B	40	54	56	61	67
C	46	50	63	73	77
D	33	35	48	45	49
E	47	43	53	48	52

The total production of type E cars in 2012 and 2013 is approximately what percent more than the average production of type A cars during the years 2012 to 2016?

- (A) 56.4 (B) 52.2  
(C) 53.8 (D) 55.2

Ans.D

Q13. In  $\Delta ABC$  with sides 6 cm, 7 cm and 8 cm, the angle bisector of the largest angle divide the opposite side into two segments. What is the length of the shorter segment?

- (A)  $\frac{48}{14}$  cm (B)  $\frac{24}{5}$  cm

(C)  $\frac{21}{5}$  cm

(D)  $\frac{56}{13}$  cm

Ans.A

Q 14. The efficiencies of A, B and C are in the ratio 5:3:8. Working together they can complete a work in 30 days. A and B worked together for 20 days. The remaining work will be completed by C alone in:

(A) 36 days

(B) 32 days

(C) 30 days

(D) 40 days

Ans.D

Q.15 If  $x + y = 12$  and  $xy = 27, x > y$ , then the value of  $(x^3 - y^3)$  is:

(A) 702

(B) 710

(C) 724

(D) 720

Ans.A

Q 16. The distance between two stations A and B is 800 km. A train X starts from A and moves towards B at 40 km/h and another Y starts from B and moves towards A at 60 km/h. How far from A will they cross each other?

(A) 320 km

(B) 300 km

(C) 380 km

(D) 360 km

Ans.A

Q 17. If a 9-digit number  $32x4115y2$  is divisible by 88, then the value of  $4x - y$  for the smallest possible value of  $y$ , is:

(A) 11

(B) 31

(C) -1

(D) 20

Ans.C

Q 18. The average of twelve numbers is 46. The average of the first four numbers is 43 and that of the last five numbers is 49.4. The 5<sup>th</sup> and 6<sup>th</sup> numbers are respectively 4 and 6 more than the 7<sup>th</sup> number. What is the average of the 5<sup>th</sup> and the 7<sup>th</sup> numbers?

(A) 43.5

(B) 44.5

(C) 44

(D) 43

Ans.D

Q 19. The ratio of the present ages of A and B is 8:9. After 9 years, this ratio will become 19:21. C is 3 years younger to B. What is the present age (in years) of C?

(A) 52

(B) 48

(C) 49

(D) 51

Ans.D

Q 20. What is the compound interest on a sum of Rs 10,000 at 14% p.a for  $2\frac{5}{7}$  years where the interest is compound yearly?

(A) Rs 4,439

(B) Rs 4,296

(C) Rs 4,394

(D) Rs 4,259

Ans.B

Q 21. When the price of an item was reduced by 20%, then its sale increased by  $x\%$ . If there is an increase of 60% in the receipt of the revenue, then the value of  $x$  is:

(A) 80

(B) 120

(C) 96

(D) 100

Ans.D

Q 22. The table shows the production of different types of cars (in thousands).

Year Car	2012	2013	2014	2015	2016
A	54	58	60	63	55
B	40	54	56	61	67
C	46	50	63	73	77
D	33	35	48	45	49
E	47	43	53	48	52

If the data related to the production of type D cars is represent by a pie chart, then the central angle of the sector representing the production of cars in 2013 will be:

(A)  $84^\circ$ (B)  $77^\circ$ (C)  $75^\circ$ (D)  $60^\circ$ 

Ans.D

Q 23. If  $\sin\theta = 4\cos\theta$ , then what is the value of  $\sin\theta\cos\theta$ ?

- (A)  $\frac{3}{10}$  (B)  $\frac{3}{4}$   
 (C)  $\frac{4}{17}$  (D)  $\frac{2}{9}$

Ans.C

Q 24. Abhi bought two articles for Rs 624. He sold one at a loss of 14% and the other at a profit of 14%. If the selling price of both the articles is equal, then the difference between their cost prices (in Rs) is:

- (A) 89.64 (B) 88.84  
 (C) 89.68 (D) 87.36

Ans.D

Q.25 Let  $a = \frac{2 \sin x}{1 + \sin x + \cos x}$  and  $b = \frac{c}{1 + \sin x}$ . Then  $a = b$ , if  $c = ?$

- (A)  $1 + \sin x - \cos x$   
 (B)  $1 - \sin x \cos x$   
 (C)  $1 + \cos x - \sin x$   
 (D)  $1 + \sin x \cos x$

Ans.A