

# MAT MOCK TEST QUESTION

## Quantitative Techniques

1. What is the simplified value of  $\frac{4\frac{3}{11} - 15\frac{1}{12} \times \frac{32}{3} + \frac{312}{17} \times 4\frac{16}{25}}{7\frac{1}{11} \times \frac{32}{3}}$ ?

- (a) 1.93 (b) 15.63 (c) 0.013 (d) 156.3

The income of Q is 25% less than the income of R. The income of P is 20% higher than that of Q. What percent less is P's income from R's income?

- (a) 40%  
 2. (b) 12%  
 (c) 10%  
 (d) 8%

3. What is the square root of  $\frac{a^5 - 1}{a - 1} \div (a^3 + 2a^2 + a)$ ?

- (a)  $\sqrt{a^3 + a^2 + 2a + 1}$   
 (b)  $a^2 + a + 1$   
 (c)  $a^2 - a + 1$   
 (d)  $a^2 + a - 1$

4. A dealer of scientific instrument offers successive discount of 20%, 10% and 5% respectively on the marked price of Rs. 1500. He offers successive discounts of 20%, 20% and 10% respectively on another scientific instrument which is marked 2000. What is the sum of selling prices of both of the scientific equipments?

- (a) 2578  
 (b) 1260  
 (c) 1846  
 (d) 2178

In  $\Delta PQR$ ,  $\angle QPR = 90^\circ$  and  $QR = 2PQ$ , then what is the measure of  $\angle PRQ$ ?

5. (a)  $30^\circ$   
 (b)  $45^\circ$   
 (c)  $15^\circ$   
 (d)  $60^\circ$

In how much time (in years), will a sum of money become thrice of itself at the rate of 25% per annum simple interest?

6. (a) 6 years  
 (b) 8 years

(c) 12 years (d) 10 years

- The half of the average value of three number is 20. The second number is thrice the third number and first number is twice the second number. What is the sum of smallest and largest number?
7. (a) 68  
(b) 56  
(c) 84  
(d) 96

- If a train runs at 50 km/hr, it reaches 60 minutes earlier than its schedule time at its destination but if it runs at 8.33 m/s it reaches at its destination 300 minutes late, find the correct time for the train to complete its journey.
8. (a) 10 hours  
(b) 6.5 hours  
(c) 7.44 hours  
(d) 13.3 hours

- Average age of a nuclear family of 4 members, five years ago was 12 years. On including age of the boy from neighbourhood, the present average age is 15 years. What is the present age of the boy from the neighbourhood?
9. (a) 17  
(b) 9  
(c) 7  
(d) 12

10. If  $x^2 + \frac{1}{2} - 18 = 0$ , then what is the value of  $x^3 - \frac{1}{3}$ ?
- (a)  $46x$   
(b) 54  
(c) 88  
(d) 76

11. A team of 20 men completes the work in 18 days. The team of 20 men works 11 days together, how many workers are added to the team if the work is finished in next five days?
- (a) 4  
(b) 5  
(c) 8  
(d) 12

12. If  $p + q + r - 11 = 0$  (where p, q, r are real numbers), then what is the minimum value of  $p^2 + q^2 + r^2$ ?
- (a) 41  
(b) 45  
(c) 27  
(d) 33

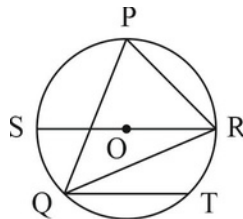
13. In an isosceles triangle PQR,  $PQ = PR$  and  $\angle PRQ = 65^\circ$ . PT is the median to the base QR, then  $\angle QPT$  is \_\_\_\_\_.
- (a)  $35^\circ$
  - (b)  $115^\circ$
  - (c)  $65^\circ$
  - (d)  $25^\circ$
14. A shopkeeper sold a bat at a loss of 15%. If he had sold it for Rs. 700 more, then he would have earned 20% profit. What is the cost price?
- (a) 1120
  - (b) 2500
  - (c) 2000
  - (d) 3225
15. The length of a shadow of a building is  $\sqrt{3}$  times of height. The angle of inclination is:
- (a)  $30^\circ$
  - (b)  $45^\circ$
  - (c)  $75^\circ$
  - (d)  $90^\circ$
16. If the breadth of a rectangle is increased 20% and length decreases by 15%, a square of area 576  $m^2$  is obtained. The area of the rectangle is:
- (a) 564.7  $m^2$
  - (b) 625.3  $m^2$
  - (c) 897.2  $m^2$
  - (d) 211.3  $m^2$
17. In  $\Delta PQR$ , exterior bisector of  $\angle PQR$  and  $\angle PRQ$  meet at O. If  $\angle QPR = 80^\circ$ , then  $\angle QOR$  is:
- (a)  $30^\circ$
  - (b)  $25^\circ$
  - (c)  $50^\circ$
  - (d)  $60^\circ$
18. If  $p : q = 6 : 11$  and  $r : s = 2p : 3q$ , then  $pr : qs = ?$
- (a) 35 : 133
  - (b) 20 : 97
  - (c) 124 : 421
  - (d) 24 : 121
19. Three pipes P, Q and R are attached to a tank. The water coming through the pipe has following discharge rate 42 litre/hr, 56 litre/hr and 48 litre/hr respectively. P and Q are inlet and R is a outlet. If all the pipes are working simultaneously, tank is filled in 16 hours. What is the capacity of the tank?
- (a) 600
  - (b) 800
  - (c) 500
  - (d) 1100

20. The amount of 1457 was to be divided among Ram, Shyam and Arjun in the ratio of  $\frac{1}{5} : \frac{1}{4} : \frac{1}{3}$  respectively but by mistake it was divided in the ratio of 16 : 17 : 14. What is the excess amount received by P?
- (a) 244
  - (b) 124
  - (c) 278
  - (d) 96
21. A reduction of Rs. 2 per kg allows a man to spend money to buy 4 kg of more sugar for Rs. 16. What is the original price of sugar?
- (a) Rs. 12
  - (b) Rs. 10
  - (c) Re. 1
  - (d) Rs. 4
22. An amount of Rs. 5551 is lent out by a money lender in three parts at the interest of 5% for period 2 years, 3 years and 4 years respectively. After some period of time, amount of each parts become equal. What is the sums that are lent out in each parts?
- (a) 4561, 1231, 2334
  - (b) 1848, 1932, 1771
  - (c) 1432, 1337, 1526
  - (d) 1576, 2106, 1418
23. A car passes through the hands of three dealers each of whom loses 6%. If the third sells it for Rs. 103823, what did the first pay for it?
- (a) 111250
  - (b) 142000
  - (c) 316250
  - (d) 125000
24. What is the height of building if the elevation of its top at an unknown distance from the base is  $60^\circ$  and at a distance 10 km further off from the building along the same line, the angle of elevation is  $30^\circ$ ?
- (a) 10 m
  - (b) 26 m
  - (c) 42 m
  - (d) 5 m
25. What is the change in the area (in percentage) of an equilateral triangle whose three sides are increased by 12%?
- (a) 12%
  - (b) 24%
  - (c) 44%
  - (d) 72%

26. A year ago, the cost of pulsar bike and bullet bike were in ratio of 3 : 4. The ratio of the costs a year ago to the present costs for pulsar bike and bullet bike are 4 : 5 and 2 : 3 respectively. If the sum of their present cost is 3.9 lakhs. Find the cost of bullet bike a year ago?

- (a) 1.6 lakh
- (b) 1.4 lakh
- (c) 1.75 lakh
- (d) 1.9 lakh

27. In the given figure,  $\angle RPQ$  is  $70^\circ$ , RS is diameter and QT chord is parallel to RS, then what is the value of  $\angle TQR$ ?



- (a)  $30^\circ$
- (b)  $20^\circ$
- (c)  $40^\circ$
- (d)  $10^\circ$

28. Two trains of lengths 250 m and 150 m are moving with a certain speeds. If they are moving in same direction, the faster train crosses the slower one in 50 seconds. If they are travelling in opposite directions, they cross each other in 10 seconds. What is the speeds of the trains (in m/s)?

- (a) 16, 21
- (b) 24, 12
- (c) 16, 24
- (d) 12, 21

29. A mixture of certain quantity of milk with 16 litres of water is worth Rs. 90 per litre. If pure milk be worth Rs. 108 per litre, how much milk is there in the mixture?

- (a) 80
- (b) 120
- (c) 50
- (d) 150

30. Three wheels completing 24, 36, 12 revolutions in a minute from a certain point in their circumference downwards. By what time will they come together again in the same position?

- (a) 15 seconds
- (b) 10 seconds
- (c) 8 seconds
- (d) 5 seconds

31. A blue light flashes 3 times per second and a red light flashes 5 times in 2 seconds at equal intervals. If both lights start flashing at the same time, how many times do they flash together in a minute?

- (a) 30

- (b) 45
- (c) 24
- (d) 50

32. Solve the following  $752 + 362 + 492 + 682 + 912 - 252 - 512 - 442 - 422 - 1192$ ?

- (a) 114
- (b) 1140
- (c) 11400
- (d) 114000

33. If four whole numbers taken at random are multiplied together, what is the chance that last digit in the product is 1, 3, 7 or 9?

- (a)  $\frac{25}{219}$
- (b)  $\frac{125}{729}$
- (c)  $\frac{16}{625}$
- (d)  $\frac{256}{725}$

34. A tent is of the shape of a right circular cylinder up to a height of 2 metres and then becomes a right circular cone with a maximum height of 11 metres above the ground. What is the total surface area of the tent, if the radius is 14 m?

- (a) 676.25 m<sup>2</sup>
- (b) 732.33 m<sup>2</sup>
- (c) 1315.23 m<sup>2</sup>
- (d) 959.2 m<sup>2</sup>

35. If two dice are rolled or thrown simultaneously, what is the probability that the sum of numbers is equal or more than 11?

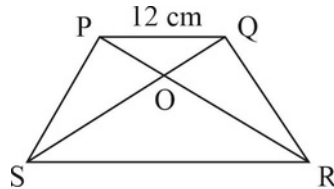
- (a)  $\frac{2}{13}$
- (b)  $\frac{1}{36}$
- (c)  $\frac{1}{12}$
- (d)  $\frac{3}{27}$

36. In a bag, there are 13 red, 12 blue and 7 orange balls. 3 balls are drawn at random. What is the probability that at least one red ball is drawn?

- (a)  $\frac{1466}{4960}$
- (b)  $\frac{2544}{4960}$
- (c)  $\frac{3991}{4960}$
- (d)  $\frac{826}{4960}$

37. A circle of radius 14 cm is given. A rectangle is inscribed in one of the quadrant. What is the length of its diagonal?  
 (a) 7 (b) 21 (c) 14  
 (d)  $7\sqrt{2}$

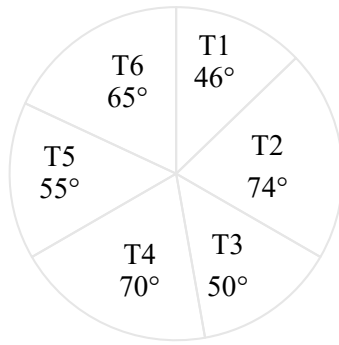
38. In the given figure,  $\frac{PO}{OR} = \frac{QO}{OS} = \frac{1}{2}$  and  $PQ = 12$  cm. Find the value of SR.



- (a) 24  
 (b) 6  
 (c) 12  
 (d)  $6\sqrt{2}$
39. How many spherical bullets can be made out of solid cube lead with edge of 44 mm, if each bullet radius is 2 cm?  
 (a) 3561  
 (b) 6250  
 (c) 2125  
 (d) 2541
40. The length and breadth of a cuboid are increased by 20% and 10% respectively. The height of cuboid decreased by 5%. Find the percentage change in the volume of cuboid.  
 (a) 12.5  
 (b) 12.36  
 (c) 25.6  
 (d) 30.68

### Data Interpretation

**Directions for questions 1 to 5:** The pie chart given below shows the number of 6 different desserts sold. The total number of desserts sold were 7200.



1. If  $V_1$  is sum of number of desserts T3 and T5 sold, then  $V_1$  is what percentage less or more than the T6 desserts? (a) 61.54% (b) 59.62% (c) 67.62% (d) 64.32%

If sales of T1 desserts increased by 44% and sales of T6 desserts increased by 15% what is the difference between the number of T1 and T6 new sales?

2.

- (a) 327
- (b) 170
- (c) 129
- (d) 514

3. If number of T5 sold decreases by 10%, what is the sum of new value of T5 and T4?

- (a) 3254
- (b) 3236
- (c) 2162
- (d) 2390

4. The number of T4 desserts sold is what percent of T3 desserts sold?

- (a) 113%
- (b) 80%
- (c) 40%
- (d) 140%

5. If  $L_1$  is sum of number of T1 and T2 desserts sold and  $L_2$  is sum of T3 and T4 desserts sold  $L_1$  is what percent more or less than  $L_2$ ?

- (a) 0%
- (b) 110%
- (c) 112%
- (d) 64%

**Direction for questions 6 to 10:** The question is consist of a question and two statements I and II Decide whether the data – provided in the statement are sufficient to answer the question mark answer as

- (a) if the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.
- (b) if the data in statement II alone are sufficient to answer the question while the data in statement I alone are not sufficient to answer the question.
- (c) if the data in both in statements I and II are required to answer the question.
- (d) if the data in both statements I and II together are not sufficient to answer the question.

6. The sum of age of Guddu, Munna and Faisal is 60 years. What is Munna’s age?

- I. Guddu is 15 years older than Munna.
- II. Faisal age is 35 years.

7. Who among the A, B, C, D and E is the heaviest?

- I. C and B are heavier than E and E is not the lightest.
- II. D lighter than C but heavier than B.

8. Who is the best salesmen in the company?

- I. Srijith sold maximum number of product this month.
- II. Company has recovered from the loss and now is in profit because of new CEO.

9. How many student qualify for JEE advance exam this year?

- I. Last year 45000 girls qualified the exam.
- II. There is 15% increase in participation of girls in the exam.

10. Who is the son of T among the group of C, B, A and Q?

- I. C and B are sister of Q.
- II. A is the mother of B and wife of M.

**Direction for question 11 to 15:** The table given below shows the number of teachers in 5 different schools. It also shows the ratio of male to female teachers in that school.

	M : F	Number of total teachers
T1	4 : 3	2800
T2	3 : 2	2500
T3	5 : 1	6600
T4	2 : 7	8181
T5	1 : 1	4632

11. What is the ratio of male teachers from school T2 and difference between male and female teachers from school T4?

- (a) 100 : 303

- (b) 100 : 205
- (c) 206 : 303
- (d) 124 : 332

12. What is the sum of number of male teachers of T2 school and T3 school?

- (a) 5500
- (b) 11500
- (c) 6200
- (d) 7000

13. If the male teachers number decreased by 20 percent and female teachers number increased by 20 percent of school T3 and T1 respectively. The difference between male teachers of T3 school and female teachers of T1 schools.

- (a) 2960
- (b) 3560
- (c) 2870
- (d) 1600

14. What is the average number of teachers in a school?

- (a) 4943
- (b) 6234
- (c) 2973
- (d) 5622

15. If J1 is sum of male teachers in school T3, T4, T5 and J2 is sum of female teachers of school T4 and T5. J2 is what percent more or less than J1?

- (a) 5.53 percent
- (b) 14.31 percent
- (c) 9.91 percent
- (d) 0.87 percent

**Direction for questions 16 to 20:** The table given below shows 4 different types of calculators sold in 4 different shops.

	C1	C2	C3	C4
S1	800	2000	1000	5000
S2	2100	3000	1250	8000
S3	5800	4100	2250	10000
S4	10000	11000	5800	12500

16. If L1 is average of calculators C1 sold in all 4 shops, L2 is average of calculators C2 sold in all 4 shops and L3 is average of C3 calculators sold in all 4 shops. What is the ratio of difference between L1 and L2 and difference between L3 and L1?

- (a)  $\frac{121}{370}$
- (b)  $\frac{2}{7}$
- (c)  $\frac{1}{6}$
- (d)  $\frac{45}{189}$

17. The calculators C2 sold in shop S2 is what percent more than the number of calculators C3 sold in S1?

- (a) 500
- (b) 330
- (c) 200
- (d) 100

18. If the sales of calculators C1 of shop S3 drop by half. What is the sum of calculators C1 of shop S2 and new sales of calculators C1 of S3 shop?

- (a) 5000
- (b) 7520
- (c) 4900
- (d) 4760

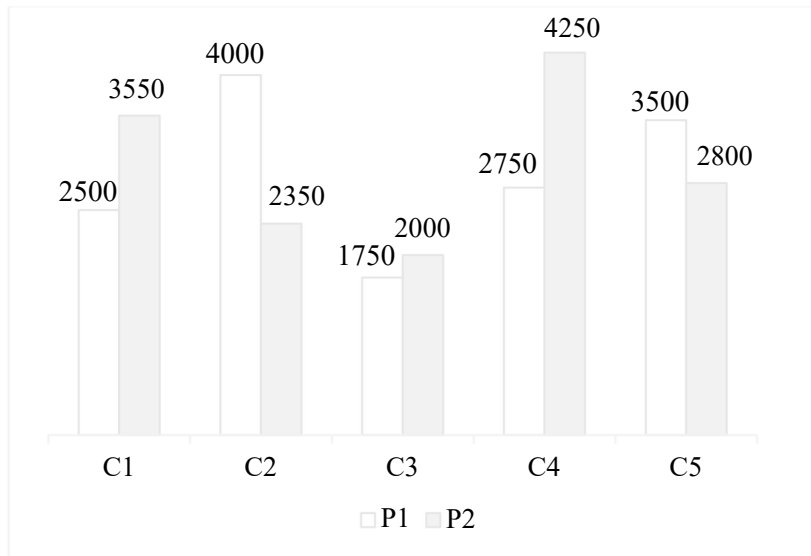
19. If J1 is sum of calculators C3 sold in shops S2 and S3 and J2 is the difference of calculator C2 sold in shop S1 and S2. The value of J1 : J2 is:

- (a) 25 : 23
- (b) 7 : 3
- (c) 14 : 15
- (d) 9 : 7

20. The sum of number of calculators C4 sold in shops S1 and S2 is what percent of C2 calculators sold at S4 shop?

- (a) 118.18 percent
- (b) 82.33 percent
- (c) 129.3 percent
- (d) 154.2 percent

**Direction for questions 21 to 25:** The bar graph given below shows the comics of two different publishers sold in 5 different cities. Choose the correct answer of the following questions.



21. If L1 is sum of comics C1 and C2 of publisher P1. L2 is sum of comics C3 of both publishers. What is the ratio of L1 and L2?
- (a) 28 : 15  
 (b) 13 : 15  
 (c) 26 : 15  
 (d) 28 : 13
22. If L1 is the sum of comics C1 of publisher P2 and comic C2 of publisher P1. L1 is what percent more or less then total number of C2 comics?
- (a) 18.9%  
 (b) 25.63%  
 (c) 32.33%  
 (d) 10.93%
23. If the price marked by publisher for C4 is Rs. 30 per comic of P1 publisher and Rs. 20 per comic of P2 publisher, then what is the total money obtained by selling C4 comics?
- (a) 217500  
 (b) 318650  
 (c) 167500  
 (d) 25400
24. The average of number of comics C2 and C4 of publisher P2 sold is what percent of average of number of comics C3 and C4 sold of publisher P1?
- (a) 146.67%  
 (b) 154.32%  
 (c) 117.33%  
 (d) 181.53%
25. What is the net difference between the number of comics sold of publisher P1 and number of comics sold of publisher P2?
- (a) 1050  
 (b) 860

(c) 450

(d) 40

**Directions for questions 26 to 30:** In each of these questions two quantities I & II are given. Compare the quantities.

26. The volume of the sphere is 4851.

I. The radius of the sphere.

II. The surface area of semicircle.

(a) if the quantity I is greater than quantity II

(b) if the quantity II is greater than quantity I

(c) if the quantity I and II are equal

(d) if comparison cannot be made

27. Arun sold a watch to Rohan at 10% profit. Rohan sold the same watch at again 10% profit.

I. The price of watch at which Rohan bought is Rs. 5500

II. Arun buys the watch at price Rs. 500 more than previous cost price.

(a) if quantity I is greater than quantity II

(b) if quantity II is greater than quantity I

(c) if quantity I and II are equal

(d) if comparison cannot be made

28. Rohan earns 40000 per month.

I. Rohan saves  $\frac{2}{5}$  of his salary.

II. Rohan's expenditure on food is Rs. 15000 per month.

(a) if quantity I is greater than quantity II

(b) if quantity II is greater than quantity I

(c) if quantity I and II are equal

(d) if comparison cannot be done

29. The average age of 4 people is 16 two years ago.

I. If one more person added, the present average age of all the people is 18. Then age of new person.

II. The age of the oldest person among the four is 20.

(a) if the quantity I is greater than quantity II

(b) if the quantity II is greater than quantity I

(c) if the quantity I and II are equal

(d) if the comparison cannot be done

30. Pipe P1 and P2 can together fill the tank in 12 hrs.

I. Pipe P1 alone can fill the tank in 15 hrs. The pipe P2 can fill the tank in  $t_1$  hrs.

II. If tank has leakage which results of 20 hr time to fill the tank. The leakage can empty tank in  $t_2$  hr.

(a) if quantity I is greater than quantity II

(b) if quantity II is greater than quantity I

(c) if the quantity I and II are equal

(d) if the comparison cannot be done

**Direction for questions 31 to 35:** Study the following information carefully and answer the questions below:

In a college there are 4000 students who are studying in 4 different streams, of engineering namely Computer Science, Mechanical, Electronics and Civil.

The ratio of male to female students are 3 : 2. 40% of male students are studying in Mechanical stream & 25% are studying in Civil stream. The remaining male students are studying in Electronics and Computer Science stream in the ratio of 3:4. The number of female students studying Mechanical stream and other stream are 1 : 7. 25% of female students who are not studying in Mechanical stream are studying in Electrical. The remaining female students are studying in Civil and Computer Science streams in the ratio of 3 : 4.

31. What is the sum of total number of students who are studying in Mechanical and Electrical streams?
- (a) 1156
  - (b) 1870
  - (c) 1730
  - (d) 1735
32. What is the ratio of male students studying in Computer Science and Electrical streams to the total number of female student studying in Mechanical branch?
- (a) 21 : 5
  - (b) 32 : 15
  - (c) 19 : 6
  - (d) 17 : 48
33. The total number of female students in Mechanical and Computer Science streams is what percent more or less than the difference between male students of Mechanical & Electrical stream?
- (a) 45.67%
  - (b) 64.33%
  - (c) 72.36%
  - (d) 33.33%
34. The total number of students studying in Electrical stream is what percent of total number of female students?
- (a) 133.25%
  - (b) 75.40%
  - (c) 79.36%
  - (d) 44.37%
35. If L1 is the difference between male and female students of Computer Science and L2 is the difference between male and female student of Mechanical stream. What is the ratio of L1 and L2?
- (a) 2 : 5
  - (b) 7 : 11
  - (c) 11 : 17
  - (d) 3 : 19

**Direction for question 36 to 40:** Each of the following questions has a question and the statements labelled I and II. You have to decide whether the data provided in the statement are sufficient to answer the question. Read both the statement and give your answer as (a) if data in statement I alone are sufficient to answer the question while the data in statement II

alone are not sufficient to answer the question

(b) if the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question

(c) if the data even in both the statements together are not sufficient to answer the question.

(d) if the data in both the statements I and II together are needed to answer the question.

36. Sumit scored an average of 60 marks in Physics, Chemistry and Hindi. How much did he get in Chemistry?

I. His average score in Physics and Hindi is 45.

II. He got marks in Hindi.

37. Pradeep, Qureshi and Raj's salary is in the ratio 4 : 5 : 7, respectively. How much is Qureshi's salary?

I. The difference between Qureshi and Raj's salary is double that of Pradeep and Qureshi.

II. Qureshi gets Rs. 4000 less than Raj.

38. What is difference in the ages of Kim and George?

I. Kim is 20 years older than Andy.

II. Andy is 2 years younger than Zidane.

39. In a certain code language, '146' means 'adopt good habits'. What is code of 'habit' in that language?

I. '4732' means 'like good picture'

II. '826' means 'passion becomes habit'

40. How old is Vrinda now?

I. Vrinda was twice as old as his brother 2 years back and his brother's age now is 20 years.

II. Vrinda was 10 years old when his brother was born.

### Logical Reasoning

1. Complete the following series.

2, 6, 15, 28, 55, ? (a) 110 (b) 85

(c) 78 (d) 53

**Direction for questions 2 to 4:** Select the related word/number/letters from given alternates.

2. 12 : 1716 :: 15 : ?

(a) 2235 (b) 6875

(c) 3360

- (d) 5350 Plant : Starch :: Animal : ?
3. (a) Glycogen  
(b) Protein  
(c) Vitamin  
(d) Cholestrol
- Marriage : 21 :: Vote : ?
4. (a) 25  
(b) 36  
(c) 12  
(d) 18
- Arrange the following words as per dictionary order.
1. Annually  
2. Annular  
3. Description  
4. Design  
5. Development
5. (a) 1, 2, 4, 3, 5  
(b) 1, 2, 3, 4, 5  
(c) 2, 1, 3, 5, 4  
(d) 2, 1, 5, 3, 4

**Direction for questions 6 to 8:** Select the odd letter/word/number from the given alternatives.

6. (a) 39  
(b) 289  
(c) 78  
(d) 126
7. (a) Turnip  
(b) Radish  
(c) Tomato  
(d) Carrot
8. (a) POTS  
(b) GOATS  
(c) JOKE  
(d) LOCK

9. Pointing towards a child, the woman said, "That child is the daughter of brother-in-law of my mother's husband's only daughter-in-law". How is the women related to the child?
- (a) Grandmother  
(b) Mother  
(c) Aunt  
(d) Sister

10. I, J, P, Q, R and T are friends. The height of P is more than I. I is not the shortest person. Q and J are taller than I. T is taller than R. Q is taller than J who is taller than T but shorter than P. P is taller than Q. Who is the shortest person?

- (a) J
- (b) Q
- (c) T
- (d) R

11. In certain code language HELP is written as FDKR and BOTHER is written as ZMSIGV. How is QUENCH written in code language?

- (a) NSFPEL
- (b) NSDOEK
- (c) PTFPEL
- (d) PSDOEL

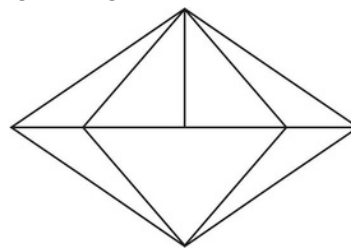
12. In certain code language, JOGGER is written as LMIEGP and PRICK is written as RPKAM. How is SWEET written in that code language?

- (a) VUGCV
- (b) UUGCV
- (c) TTVGS
- (d) TVGCS

13. If '@' means '+', '^' means '-', '&' means '×' and '#' means '÷', then which one of the following equation is correct?

- (a)  $15 \# 3 @ 14 ^ 3 \& 4 = 7$
- (b)  $16 \& 2 @ 15 ^ 20 \# 5 = 48$
- (c)  $32 \# 8 @ 6 \& 3 ^ 12 = 22$
- (d)  $6 ^ 18 \# 2 @ 5 \& 3 = 8$

14. Find the number of triangles in the given figure.



- (a) 7
- (b) 26
- (c) 16
- (d) 14

In the given dice, which number is opposite to 4?

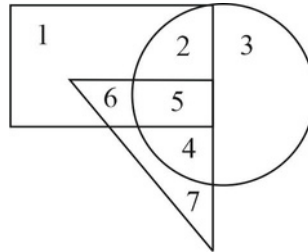
15.



- (a) 3
- (b) 5

(c) 6 (d) 2

In the following diagram, rectangle represents pilots, triangle represents painters and circle represents cricketers. Which number represents pilots that are also cricketers?



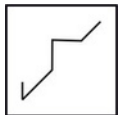
- (a) 2
- (b) 6
- (c) 5
- (d) 4

17. Identify the diagram that best represents the relationship among classes given below.

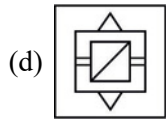
Sun, Moon, Mars

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

18. From the given answer figure, select the ones in which the question figure is hidden and embedded.



- (a)
- (b)
- (c)



19. In the following question, two statements are given followed by two conclusions (I) and (II). You have to consider the statements to be true, even if they seem to be at variance from the commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statements.

**Statements:**

- I. Gravitational force of earth attracts every body towards itself.
- II. Gravitational force is directly proportional to the mass of body.

**Conclusions:**

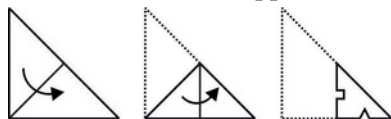
- I. Like poles of magnets repelling each other is due to gravitational force.
- II. When ball is thrown up, it comes back to ground due to gravity.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

20. If 'LEMON' is written as 'OCPMQ' and 'RUST' is written as 'USVQ', then how will you code 'COMPLICATION'?

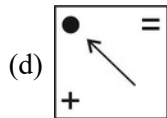
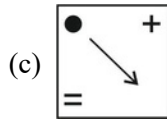
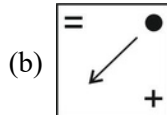
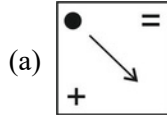
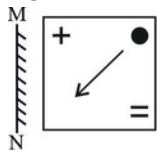
- (a) FMPSOGGYUGMQ
- (b) GMPSPFGYUGMQ
- (c) GMPSOFGYUGMQ
- (d) FMPSOGFYWGMQ

21. A piece of paper is folded and cutas shown below in the question figure. From the given answers, indicate how it will appear whenopened?



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

22. If a mirror is placed on MN line, then which of the answer figures is the right image of the given figure?



23. A solid cube painted red on all faces is cut by 3 parallel planes from each side dividing the cube into smaller identical cubes. How many cubes have no sides painted?
- (a) 6  
 (b) 12  
 (c) 8  
 (d) 16

24. If '-' stands for '÷', '+' stands for '-', '×' stands for '+' and '÷' stands for '×', then what will be the value of the expression?

$$14 \times 56 - 16 \div 12 + 32$$

- (a) 54  
 (b) 24  
 (c) 36  
 (d) 116

**Direction for questions 25 to 27:** Select the correct alternatives from the given ones that will complete the series.

25. 72, 70, 74, 68, 76, ?

- (a) 56  
 (b) 66  
 (c) 68  
 (d) 54

26. D, K, R, Y, ?

- (a) H  
 (b) D  
 (c) F

(d) L

27. p \_ p p q \_ p \_ p q \_ q p p \_ \_ q \_ q q

(a) p q q q q p q

(b) q q p q p p q

(c) q q q p p q p

(d) p q p q p q p

28. Six people are sitting in a circle facing the centre of the circle. Rohan is between Vidhya and Jyoti. Zahir is between Chaman and Sumit. Chaman is to the immediate left of Vidhya. Who is to the immediate right of Vidhya?

(a) Jyoti

(b) Zahir

(c) Rohan

(d) Chaman

29. The given question has two statements followed by two conclusions I and II. Decide which of the following conclusion follows from the statements.

**Statements:**

I. All poets are reader.

II. No reader is wise.

**Conclusions:**

I. No poet is wise.

II. All readers are poets.

(a) Only Conclusion I follow

(b) Only Conclusion II follow

(c) Both conclusion I and II follow

(d) Neither conclusion I nor II follow

**Directions for questions 30 to 32:** The given question has Assertion (A) followed a Reasoning (R). Choose the correct alternative from the options given below.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A)

(b) Both (A) and (R) are true and (R) is not the correct explanation of (A)

(c) (A) is true but (R) is false

(d) (A) is false but (R) is true

30. **Assertion (A):** Earthworms are not good for agriculture.

**Reasoning (R):** Earthworms break down the soil into fine particles and make it soft.

31. **Assertion (A):** Diamond is used for cutting glass.

**Reasoning (R):** Diamond is the hardest material.

32. **Assertion (A):** Akbar found Din-e-Illahi.

**Reasoning (R):** He was motivated by self-glorification.





33. In a certain code 'TREAD' is written as '8#@23' and 'CORD' is written as '\$#%3'. How is 'TORE' written in the code?

(a) 8#@

- (b) %2#@
- (c) #38%
- (d) \$@38

34. Which of the following diagram depicts the relationship among the given classes?

Students, Scholars, Books

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

**Direction for questions 35 and 36:** The questions are based on the information given below.

A group of seven dancers facing the audience are standing in a line such that,

- (i) S is to the right of R.
- (ii) U is standing beside L.
- (iii) Q is to the left of U.
- (iv) T is to the left of P.
- (v) One person is sitting between Q and R.
- (vi) One person is sitting between P and S.

35. Who is second to the left of the extreme right?

- (a) U
- (b) Q
- (c) L
- (d) T

36. Who is standing third to the left of S?

- (a) P
- (b) R
- (c) Q
- (d) T

**Direction for questions 37 and 38:** Select the correct alternatives from the given options that will complete the series.

37. 12, 16, 40, 132, ?

- (a) 412
- (b) 544
- (c) 466
- (d) 724

38. BAG, T, KS, LMY, ?

- (a) UDT
- (b) XBR
- (c) WGT
- (d) OPT

39. If 'A + B' means that A is mother of B, 'A ÷ B' means that A is father of B, 'A – B' means that A is the sister of B, then which of the following relationship shows that M is the daughter of R?

- (a)  $R + N \div P - M$
- (b)  $R \div M - P - N$
- (c)  $N + R \div M - P$
- (d)  $M \div P - R + N$

40. Introducing a girl, Gopal said, "Her mother is the only daughter of my mother in law's husband". How is Gopal related to that girl?

- (a) Cousin
- (b) Uncle
- (c) Father
- (d) Brother

### **Indian and Global Environment**

1. Which institution launched an information database including a repository of information pertaining to municipal bonds?

- (a) IRDAI
- (b) NABARD
- (c) RBI
- (d) SEBI

2. Which ministry has recently (in Dec '22) launched the Stay Safe Online campaign & G-20 Digital Innovation Alliance (DIA) program in New Delhi, Delhi?

- (a) Ministry of Electronics and Information Technology
- (b) Ministry of Education
- (c) Ministry of Science and Technology
- (d) Ministry of Home Affairs

3. In January 2023, "World's First Palm-Leaf Manuscript Museum" was inaugurated in which state of India?

- (a) Maharashtra
- (b) Kerala
- (c) Tamil Nadu
- (d) Karnataka

4. Which company in January 2023 has signed an MoU with the Indian Space Research Organisation (ISRO) to empower Space technology startups in India?

- (a) Microsoft India
- (b) Infosys Limited

- (c) Larsen and Turbo
- (d) Reliance limited

5. Who authored the book, “Revolutionaries- The Other Story of How India Won Its Freedom” that was released by Union Minister of Home Affairs, Amit Shah in January 2023?

- (a) Rakesh Sharma
- (b) Bibek Debroy
- (c) Sanjeev Sanyal
- (d) Amit Agrawal

6. Who was declared as the next president of Bangladesh by the election commission of Bangladesh in February 2023?

- (a) Zillur Rahman
- (b) Mohammad Shahabuddin Chuppu
- (c) Anisul Huq
- (d) AK Abdul Momen

7. Which Indian movie has won 5 awards in the 6th Annual Hollywood Critics Association (HCA) Film Awards 2023?

- (a) Pushpa
- (b) The Kashmir Files
- (c) RRR
- (d) Laal Singh Chaddha

8. Which cricket team won the 8th edition of ICC Women’s T20I World Cup 2023 by defeating South Africa women’s team & claimed their 6th overall & 3rd consecutive ICC Women’s T20I World Cup title?

- (a) Australia
- (b) England
- (c) India
- (d) West Indies

9. Which of the following statements is/are CORRECT with respect to the amendment made by the Reserve Bank of India (RBI) on the bank locker rules w.e.f. January 1, 2023?

I. Banks should ensure that any unfair terms or conditions are not incorporated in their locker agreements.

II. All the existing locker depositors are required to sign a renewal agreement before the specified date.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

10. What was the theme of International Day of Happiness 2023 (Observed on 20th March, 2023)?

- (a) Happiness Forever
- (b) All that surrounds is happiness
- (c) Be Mindful, Be Grateful, Be Kind
- (d) Harmony and happiness

11. Which of the following statements is correct regarding the India's first underwater metro train?  
I. Kolkata Metro Rail Corporation Limited (KMRCL) successfully conducted the trial run of India's 1st underwater metro train under the river bed of Hooghly through a tunnel of 32 meters below water level.

II. This Metro is expected to cover the 520-metre stretch under the river Hooghly in a span of 45 seconds.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

12. According to 'Artificial Intelligence Index Report 2023', the 6th edition of the annual Artificial Intelligence (AI) index report published by Stanford University's Human-Centred Artificial Intelligence (HAI), which country is ranked 5th with most AI investments?

- (a) India
- (b) Pakistan
- (c) Russia
- (d) France

13. Who authored the book, "The World: A Family History"?

- (a) Simon Sebag Montefiore
- (b) Rao Inderjit Singh
- (c) Lucy Worsley
- (d) Harish Mehta

14. On 4th April 2023, \_\_\_\_\_ became the 31st member of the North Atlantic Treaty Organization (NATO).

- (a) Finland
- (b) Italy
- (c) Iceland
- (d) Syria

15. What is the maximum limit of instant transactions made using UPI LITE wallet?

- (a) Rs. 100
- (b) Rs. 200
- (c) Rs. 500
- (d) Rs. 2000

16. The world's first 200-meter-long Bamboo Crash Barrier, named "Bahu Balli," has been installed in which state of India? (a) Odisha (b) Maharashtra (c) West Bengal (d) Tamil Nadu

17. Which state passed the 'Protection of Drinking Water Catchment Areas Bill, 2023'?

- (a) Assam

- (b) Uttar Pradesh
- (c) Arunachal Pradesh
- (d) Odisha

18. Which of the following statements is correct regarding the PM SHRI scheme?

I. It is a new centrally sponsored scheme that aims at developing more than 14500 schools across the country.

II. The PM SHRI schools will aim at delivering quality teaching for the cognitive development of students and creating and nurturing holistic and well-rounded individuals equipped with key 21st-century skills.

III. This scheme was approved on March 7, 2023.

- (a) I and II
- (b) II and III
- (c) Only I
- (d) I, II and III

19. Which Insurance company rebranded itself as Zuno General Insurance Limited in February 2023?

- (a) Max Life Insurance Co. Ltd.
- (b) Reliance General Insurance
- (c) ICICI Lombard General Insurance
- (d) Edelweiss General Insurance

20. Which state/UT has initiated a programme called “alternate agriculture system for sustainability project” to boost organic food production in February 2023?

- (a) Jammu and Kashmir
- (b) Bihar
- (c) Assam
- (d) Odisha

21. What is the name of the book that has won the 2022 JCB Prize for Literature?

- (a) Valli
- (b) The Paradise of Food
- (c) The Far Field
- (d) Tomb of Sand

22. In November 2022, ISRO conducted its \_\_\_\_\_ consecutively successful launch of the Rohini “RH-200” sounding rocket from Thiruvananthapuram, Kerala.

- (a) 65th
- (b) 30th
- (c) 200th
- (d) 100th

23. Which State/Union territory Celebrated Losar Festival along with another State/Union territory to Mark their New Year in December 2022?

- (a) Nagaland and Arunachal Pradesh
- (b) Ladakh and Jammu & Kashmir
- (c) Mizoram and Assam
- (d) Bihar and Jharkhand

24. Nirmla Sitharaman announced the 'Dekho Apna Desh' scheme. In this new plan, the finance minister said that a total of \_\_\_\_\_ destinations in the country will be selected to be developed as a whole package in tourism with a challenging mode.

- (a) 50
- (b) 30
- (c) 25
- (d) 65

25. The centuries-old monastic dances specially the dance of deities Palden Lhamo and Gonpo or Mahakala were introduced for the first time in Palpung Zangdok Palri Monastery. This monastery is situated in which state/UT of India?

- (a) Assam
- (b) Ladakh
- (c) Arunachal Pradesh
- (d) West Bengal

26. Which bank was honoured with the 'Innovation in Consumer Tech' award for its India's 1st visual-voice-vernacular banking app at the 13th Aegis Graham Bell Awards (AGBA)?

- (a) Suryoday Small Finance Bank
- (b) Ujjivan Small Finance Bank
- (c) Utkarsh Small Finance Bank
- (d) Fincare Small Finance Bank

27. Which country abolished the Prevention of Terrorism Act (PTA) and introduced an Anti-Terrorism Act in March 2023?

- (a) Sri Lanka
- (b) Afghanistan
- (c) Saudi Arabia
- (d) Turkey

28. According to the EY (Ernst & Young) report, India's economy will reach USD 26 trillion by \_\_\_\_\_.

- (a) 2025
- (b) 2040
- (c) 2050
- (d) 2047

29. In which city, Prime Minister Narendra Modi inaugurated the program 'Commemoration of 50 years of Project Tiger' in April 2023?

- (a) Guwahati, Assam
- (b) Ujjain, Madhya Pradesh
- (c) Mysuru, Karnataka
- (d) Palakkad, Kerala

30. Padma Shri Awardee 'Prabhaven Sobhaghchand Shah', who passed away in January 2023, received Padma Shri award 2022 in which field?

- (a) Literature and Education

- (b) Social Worker
- (c) Art
- (d) Public Affairs

31. Who has been re-appointed as the Deputy Governor of the Reserve Bank of India (RBI) for one year in January 2023?

- (a) Michael Debabrata Patra
- (b) Urjit R. Patel
- (c) Raghuram Rajan
- (d) Subir Gokarn

32. Which of the following statements is correct regarding the instruments of monetary policy of the RBI?

I. The MSF rate is placed at 25 basis points above the policy repo rate.

II. Open market operations include outright purchase/sale of government securities by the Reserve Bank for injection/absorption of durable liquidity in the banking system.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

33. Which among the following about the Indo-Gangetic-Brahmaputra Plain is NOT correct?

I. It is the largest alluvial tract of the world.

II. The western boarder is marked by Sulaiman and Kirthar ranges.

III. This place is highly suited for the cultivation of sugarcane.

- (a) I and II
- (b) II and III
- (c) Only I
- (d) Only II

34. On April 14, 2023, the Union Minister Parshottam Rupala, Ministry for Fisheries, Animal Husbandry and Dairying (MoFAHD), launched projects, 'Animal Pandemic Preparedness Initiative' (APPI) and \_\_\_\_\_-funded 'Animal Health System Support for One Health' (AHSSOH).

- (a) World Bank
- (b) IMF
- (c) New Development Bank
- (d) UNDP

35. Which of the following statements is correct regarding the Indian revolt of 1857?

I. In India it is often called the First War of Independence.

II. The mutiny broke out in the Bengal army because it was only in the military sphere that Indians were organized.

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

36. Who among the following won the 71st Miss Universe 2022 title?

- (a) Nadia Ferreira
- (b) Amanda Dudamel
- (c) Celeste Cortesi
- (d) R'Bonney Gabriel

37. Which Mutual Fund (MF) has rebranded itself as Bandhan Mutual Fund?

- (a) IDFC Mutual Fund
- (b) SBI Mutual Fund
- (c) LIC Mutual Fund
- (d) TATA Mutual Fund

38. When was World Rotaract Day 2023 observed across the globe?

- (a) 11th March 2023
- (b) 13th March 2023
- (c) 14th March 2023
- (d) 9th March 2023

39. Who among the following was not one of the seven members of the Drafting Committee of the Constituent Assembly?

- (a) B.R. Ambedkar
- (b) Dr. K M Munshi
- (c) N. Gopaldaswami
- (d) G. V. Mavlankar

40. Which state became the 7th state to achieve 100% household tap water supply in rural areas under the 'Jal Jeevan Mission' (JJM)?

- (a) Bihar
- (b) Madhya Pradesh
- (c) Gujarat
- (d) Haryana

### Language Comprehension

**1. Fill in the blank with an appropriate word and complete the given sentence.**

Rajathad a bad \_\_\_\_\_ and couldn't get along with his co-workers.

- (a) surcharge
- (b) temper
- (c) dialect
- (d) position

**2. Fill in the blanks with the appropriate words and complete the given sentence.**

It is mainly for this reason that \_\_\_\_\_ modern economic thinkers maintain that society would prosper when people are left alone to \_\_\_\_\_ their self-interests.

- (a) latter, surrender
- (b) late, replicate

- (c) latest, navigate
- (d) late, pursue

**3. Fill in the blanks with the appropriate words and complete the given sentence.**

It wasn't until 1820 when human technology and navigation was \_\_\_\_\_ enough to allow anyone to \_\_\_\_\_ far enough south to even see Antarctica for the first time.

- (a) sophisticated, sail
- (b) perplexed, sail
- (c) cynical, sail
- (d) turbulent, slay

**4. Fill in the blank with the appropriate words and complete the given sentence.**

**The average male adult has approximately 5.5 litres of blood \_\_\_\_\_ and the average female adult approximately 4.5 litres.**

- (a) tattling
- (b) enshrouding
- (c) dispersing
- (d) circulating

**5. What is the meaning of the idiom/phrase – Go bananas?**

- (a) To become very excited or angry
- (b) To rely on false information
- (c) To announce a relationship
- (d) To move in a wrong direction

**6. What is the meaning of the idiom/phrase– Engine room?**

- (a) The place where all mechanical tests take place
- (b) The place where all bad things happen
- (c) The main source of talent, power, or ability in a team or group,
- (d) A person with no moral obligations

**7. Which of the phrases should replace the highlighted phrase in the following sentence to make the sentence grammatically correct?**

International travel could require a visa *depending at the location* and duration of your trip.

- (a) depend on the location
- (b) depending on the location
- (c) depending in the location
- (d) No correction required

**8. Which of the phrases should replace the highlighted phrase in the following sentence to make the sentence grammatically correct?**

The story exposes the whole system of *corruption that led to a massive* explosion taking innocent lives and poisoning multiple generations.

- (a) corruption that leads to massive
- (b) corrupt that led to a massive
- (c) corruption which led to massive
- (d) No correction required

**9. Read each part of the sentence for grammatical or idiomatic errors. Choose the part that contains an error.** (a) The Neapolitan troops in first occupied Rome, (b) but, being badly handled by their leader (c) the Austrian general, Mack, they were (d) soon scattered in flight.

**10. Read each part of the sentence for grammatical or idiomatic errors. Choose the part that contains an error.** (a) For you to achieve extraordinary results, (b) the people that surrounding you (c) and your physical surroundings (d) must support your goals.

**11. Read each part of the sentence for grammatical or idiomatic errors. Choose the part that contains an error.** (a) It wouldn't have been so (b) much fun for him if she (c) has reacted the way he did when (d) she told him she was pregnant.

**12. In the following question, two of the words are related in some way i.e., they are similar or opposites. Pick out the option which represents this pair.** (a) Matter, Haphazard (b) Gloomy, Dark (c) Soiled, Barbaric (d) Mobilise, Slim

**13. In the following question, two of the words are related in some way i.e., they are similar or opposites. Pick out the option which represents this pair.** P. Grown Q. Mulled R. Impoverished S. Splash (a) P-Q (b) S-Q (c) P-R (d) S-R

**14. Choose the most appropriate synonym of the given word.**

**Desolate**

- (a) Cynical
- (b) Mirthful
- (c) Blithe
- (d) Morose

**15. Choose the most appropriate synonym of the given word.**

**Agglomeration**

- (a) Clutter
- (b) Mitigate
- (c) Blister
- (d) Corroborate

**16. Choose the most appropriate antonym of the given word.**

**Prune**

- (a) Extend
- (b) Pinch
- (c) Poll
- (d) Nip

**17. Choose the word which can replace the given group of words.**

**One who is all powerful**

- (a) Omnifarious
- (b) Omnipresent
- (c) Omniscient
- (d) Omnipotent

**18. Choose the word which can replace the given group of words.**

**Morbid compulsion to start a fire**

- (a) Mythomania
- (b) Monomania
- (c) Pyromania
- (d) Satyromania

**19. Sentences of a paragraph are given below in a jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.**

P. Putting off your alarm to get an extra five minutes of sleep, which tends to turn into an hour somehow is not an alien concept.

Q. Especially, if you genuinely want to turn into a morning person.

R. Hence, setting a calming alarm without the snooze option and not letting your sleepy mind make the bad decision of extending your cosy bedtime can be your best bet.

S. Try it to believe it.

- (a) PSQR
- (b) PRQS
- (c) SRPQ
- (d) QPRS

**20. Sentences of a paragraph are given below in a jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.**

P. However, for the higher levels different patterns can be seen.

Q. When looking at the level of education completed, there are hardly any differences between women and men in the EU at lower education level.

R. Almost equal shares of women and men aged 25 to 64 in the EU (22 % of women and 23 % of men) had at most completed the low education level (lower secondary education) in 2017.

S. A smaller share of women (44 %) than men (48 %) in the EU had successfully completed at most the medium level of education (a) PSQR (b) QRSP (c) QPRS (d) SQRP

**Direction for questions 21 to 25: Read the passage above and answer the given questions.**

There is a place forty kilometres north-east of Portland, Victoria, which makes for an unusual visit. It is Lake Condah. Here are to be found remains of aboriginal settlements: the circular stone bases of several hundred huts, rock-lined water channels, and stone tools chipped from rock not normally found in the area. One of the attractions of Lake Condah long ago was its fish and the most startling evidence of aboriginal technology and engineering to be found there are the systems built to trap fish. Water courses had been constructed by redirecting streams, building stone sides and even scraping out new channels. At strategic spots, they piled rocks across the water courses to create weirs and build funnels to channel eels and fish into conical baskets. This is an eel-fishing technique which has hardly changed to the present day. Beside some of the larger traps, there are the outlines of rectangular, stone-lined ponds, probably to hold fish and keep them fresh. On the bluffs overlooking the lake, stone circles are all that remain of ancient dwellings. Not all the stones were quarried locally. The huts vary in size, but all have gaps for doorways located on the lee side, away from the prevailing wind. One theory is that the stone walls were only waist to shoulder high, with the top roofed by branches and possibly packed with mud. The site presents a picture of a semi-settled people quite different from the stereotype of nomadic hunter-gatherers of the desert.

21. Lake Condah is seen as unusual, mainly because:

- (a) it is so close to a main town
- (b) there are remains of buildings still to be seen
- (c) it reveals a society that was at least partly settled and had building and engineering skills
- (d) there is evidence that some of the building stone was imported

22. Which of the following statements is NOT correct regarding the huts around the lake?

- (a) They varied in size.
- (b) All had gaps for doorways located on the lee side.
- (c) They were situated away from the prevailing wind.
- (d) They were very colourful.

23. The word 'stereotype' as used in the above passage means:

- (a) distant culture.
- (b) opposite picture.
- (c) electronic print version.
- (d) standard view

24. Lake Condah was majorly used for which of the following purposes?

- (a) To trap fish
- (b) To provide irrigation facilities
- (c) To harvest the water
- (d) To make houses

25. What does 'on the bluffs' mean in the passage?

- A. On the contrary
- B. On the hills
- C. As an advantage
- D. On the way

**Direction for questions 26 to 30: Read the passage above and answer the given questions.**

As the world gets hotter and more crowded, our engines continue to pump out dirty emissions, and half the world has no access to clean fuels or technologies (e.g. stoves, lamps), the very air we breathe is growing dangerously polluted: nine out of 10 people now breathe polluted air which kills 7 million people every year.

The health effects of air pollution are serious – one third of deaths from stroke, lung cancer and heart disease are due to air pollution. This is having a nine equivalent effect to that of smoking tobacco, and much higher than, say, the effects of eating too much salt.

Air pollution is hard to escape, no matter how rich an area you live in. It is all around us. Microscopic pollutants in the air can slip past our body's defences, penetrating deep into our respiratory and circulatory system, damaging our lungs, heart and brain.

Air pollution is closely linked to climate change – the main driver of climate change is fossil fuel combustion which is also a major contributor to air pollution – and efforts to mitigate one can improve the other. This month, the UN Intergovernmental Panel on Climate Change warned that coal-fired electricity must end by 2050 if we are to limit global warming to 1.5°C. If not, we may see a major climate crisis in just 20 years.

26. What is the primary purpose of the passage above?

- (a) To describe the dependency of climate change on various pollution
- (b) To describe the deadly health effects of air pollution on a person
- (c) To describe the harmful effects of air pollution on environment
- (d) To suggest the usage of non-conventional sources of energy to curb air pollution

27. Which of the following arguments best describes 'rich' in this statement – 'no matter how rich an area you live in'?

- (a) Area with spacious houses.
- (b) Area with expensive apartments and flats.
- (c) Area filled with lush greenery and clean environment.
- (d) Area with wealthy people and society.

28. Which of the following statements is correct according to the passage?

- (a) Air pollution is hard to escape.
- (b) Climate crisis is inevitable without action.
- (c) Stove and lamps are considered technology of clean fuels.
- (d) Air polluting majorly affects our digestive system.

29. Which of the following is the main driver of climate change?

- (a) Fossil fuel combustion
- (b) Nuclear plants
- (c) Use of methane in industries
- (d) Construction activities

30. Which word means the same as the word **-penetrating** used in the passage?

- (a) Balmy
- (b) Exciting
- (c) Departing
- (d) Intruding

**Direction for questions 31 to 35: Read the passage above and answer the given questions.**

Cloud computing has evolved from the most emerged technologies like grid computing, virtualization, utility computing in distributed computation environment with web-based platforms. The concept of Cloud Computing came into existence in the year 1950 with implementation of mainframe computers, accessible via thin/static clients. The cloud computing has evolved from the concepts of grid, utility and SaaS. The development towards cloud computing started in the late 1980s with the concept of grid computing. Grid computing is also named as On Demand Computing centres around moving a workload to the area of the required computing assets, which are for the most part remote and are promptly accessible for utilize. A grid is a group of servers where a huge task could be separated into smaller tasks which will be kept running in parallel frameworks. Starting hereof view, a grid could really be seen as only one virtual server and oblige applications to fit in with the grid programming interfaces. In the 1990s, the idea of virtualization was extended beyond virtual servers to higher levels of abstraction. Storage and network resources, and subsequently the virtual application, which has no specific underlying infrastructure were applied in virtual platform. Utility Computing is a concept established by John McCarthy, who predicted already in the late 1960s that "computation may someday be organized as a public utility". In utility computing, clusters are presented as virtual platforms for computing with a metered business model. Characteristics of clusters are that the computers being linked to each other are normally distributed locally, and have the same kind of hardware and operating system. Therefore, cluster workstations are connected together and can possibly be used as a super computer. The utility approach also known as pay per-use or metered services is increasingly common in enterprise computing and is sometimes used for the consumer market for Internet service, file sharing, web site access and other applications. More recently software as a service (SaaS) has raised the level of virtualization to the application, with a plan of action of charging not by the resources devoured but rather by the estimation of the application to supporters. In 2001, IBM began autonomic computing likewise called self-revision in which computers can naturally rectify themselves without human mediation.

**31. Arrange the following events in the chronological order.**

- I. The idea of virtualization was extended
- II. The concept of grid computing came into existence
- III. IBM began autonomic computing

- (a) III, I, II
- (b) II, I, III
- (c) I, II, III
- (d) II, III, I

32. Which of the following statements is NOT correct according to the passage?

- (a) Utility Computing is a concept established by John McCarthy.
- (b) The development towards cloud computing started in the late 1980s.
- (c) The cloud computing has evolved from the concepts of artificial intelligence.
- (d) Utility computing is associated with metered business model.

33. How software as a service (SaaS) has raised the level of virtualization to the application?

- (a) By linking operating systems
- (b) By making cluster of services
- (c) By the resources deployed
- (d) By the estimation of the application to supporters

34. Which of the following words in the passage means the same as – **depleted**?

- (a) Mediation
- (b) Rectify
- (c) Devoured
- (d) Abstraction

35. Which of the following was called self-revision?

- (a) Mobile computing
- (b) Automatic computing
- (c) Grid computing
- (d) Utility computing

**Direction for questions 36 to 40: Read the passage above and answer the given questions.**

The work by Corry Gellatly, a research scientist at the university, has shown that men inherit a tendency to have more sons or more daughters from their parents. This means that a man with many brothers is more likely to have sons, while a man with many sisters is more likely to have daughters. In many of the countries that fought in the World Wars, there was a sudden increase in the number of boys born afterwards. The year after World War I ended, an extra two boys were born for every 100 girls in the UK, compared to the year before the war started. The gene, which Mr Gellatly has described in his research, could explain why this happened.

As the \_\_\_\_\_ were in favour of men with more sons seeing a son return from the war, those sons were more likely to father boys themselves because they inherited that tendency from their fathers. In contrast, men with more daughters may have lost their only sons in the war and those sons would have been more likely to father girls. This would explain why the men that survived the war were more likely to have male children, which resulted in the boy-baby boom. In most countries, for as long as records have been kept, more boys than girls have been born. In the UK and US, for example, there are currently about 105 males born for every 100 females.

It is well-documented that more males die in childhood and before they are old enough to have children. So in the same way that the gene may cause more boys to be born after wars, it may also cause more boys to be born each year.

36. What is the central idea of the given passage?

- (a) Explaining the theory behind why more men are born after wars.
- (b) Deducing the fact behind less females as compared to males.
- (c) Sharing different war stories and related theory with it.
- (d) Describing the importance of parents in deciding future progeny.

37. Which of the following statements is true according to the given passage?

- (a) More females die in teenage, resulting in more females to be born each year.
- (b) In the UK and US, male population is less than the female population.
- (c) Man with many brothers has the tendency to give birth to many daughters.
- (d) In most countries, more men were born after the war in their region.

38. What had been described in the research of Mr Gellatly?

- (a) With more daughters seeing a daughter return from the war, those daughters were more likely to mother daughters.
- (b) With more daughters seeing a son return from the war, those sons were more likely to father twins.
- (c) With more sons seeing a son return from the war, those sons were more likely to father boys.
- (d) With more mothers seeing a son return from the war, those sons were more likely to father daughters.

39. What happened after the World War I ended, in the UK?

- (a) An extra two boys were born for every 100 girls.
- (b) An extra two boys were born for every 105 girls.
- (c) An extra three boys were born for every 100 girls.
- (d) 100 males were born for every 105 girls

40. Which of the following words can be filled in the blank given in the passage?

- (a) odds
- (b) premises
- (c) leaps
- (d) obstacles