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**Question Paper Code: U6031**

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2024

Fourth Semester

Civil Engineering

21UGS631 - Logical Reasoning and Aptitude

(Regulation 2021)

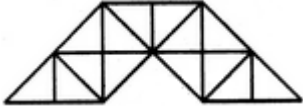
(Common to Biomedical Engineering and Bio Technology)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Harim's salary was Increased by 50% and subsequently decreased by 50%. How much percent does he lose? CO1- App  
(a) 15%                      (b)20%                      (c)25%                      (d)30%
2. The ratio of boys and girls in a class 5: 4. If the number of boys is 35, find the number of girls CO1- App  
(a) 20                      (b)28                      (c)19                      (d)16
3. A person crosses a 450 m long street in 3 minutes. What is his speed in km/hr? CO1- App  
(a) 7                      (b)9                      (c)8                      (d)10
4. A and B together can do a work in 6 days. A alone can do it in 10 days. What time B will take to do CO1- App  
(a) 15 days                      (b) 24 days                      (c) 60 days                      (d) 30 days
5. Angle traced by minute hand in 1 minute = CO1- Un  
(a) 360°                      (b) 30°                      (c) 6°                      (d) 0.5°
6. Today is Thursday, 67 days before is falls on CO1- Un  
(a)Friday                      (b)Monday                      (c)Tuesday                      (d) Sunday
7. Find the number of triangles in the given figure. CO2- App  
  
(a) 23                      (b) 27                      (c) 29                      (d)31
8. Find the Odd man out 1, 8, 27, 64, 125, 256, 343 CO2- App  
(a)27                      (b)100                      (c)125                      (d) 256

9. **Question:** How many children are there between P and Q in a row of children? CO2- App  
**Statements:**  
 I. P is fifteenth from the left in the row.  
 II. Q is exactly in the middle and there are ten children towards his right.  
 (a) I alone is sufficient while II alone is not sufficient (b) II alone is sufficient while I alone is not sufficient (c) Both I and II are sufficient (d) Neither I nor II is sufficient

10. Fill the blank in the series: C4X, F9U, I16R, \_\_\_\_, O36M CO2- App  
 (a)L25P (b)L25O (c)L27P (d)L27O

PART – B (10 x 2= 20 Marks)

11. The inverse ratio of 2 : 1 : 2 is CO1- App  
 12. The average of all numbers between 8 and 52 which are divisible by 5 is CO1- App  
 13. The Difference between C.I and S.I on a sum of Rs. 2000 for two years at a rate of 5% interest is CO1- App  
 14. If A's one day work is  $(\frac{3}{15})$  parts then a can complete the work in \_\_\_\_\_ days CO1- App  
 15.  $5P_4 =$  \_\_\_\_\_ CO1- App  
 16. 2100 is a leap year. True or False. CO1- Un  
 17. A, B, C, D and E are sitting in a row. A is in the centre. D and E are at the ends. C is sitting to the left of D. Who \_\_\_ is to the immediate left of A? CO2- App  
 18.  $169 : 13^2 :: 341 : \underline{\hspace{2cm}}$  CO2- Un  
 19. Draw the diagrams indicates the best relation between Bird, Dog and Pigeon. CO2- Un  
 20. If 'eraser' is called 'box', 'box' is called 'pencil', 'pencil' is called 'sharpener' and 'sharpener' is called 'bag', what will a child write with ? CO2- Un

PART – C (5 x 12= 60 Marks)

Answer any **five** of the following questions

21. (i) The average of 15 numbers is 17. If a number 45 is excluded then what will be the average of these 14 numbers? CO1- App (12)  
 (ii) A father is now twice as old as his son. Twenty years ago, he was six times as old as his son. What are their ages now?
22. (i) In a college, the ratio of the number of boys to girls is 8 : 5, If there are 160 girls. Find the total number of students in the college? CO1- App (12)  
 (ii) In an examination 35% of the students passed and 455 failed. Find the total number of students appeared for the examination.

23. (i) A cyclist cover a distance of 750m in 2 min. 30 sec. Find the speed of the cyclist in km/hr? CO1- App (12)  
(ii) In how many years will a sum of Rs.1000 becomes Rs.1331 at 10% per annum compounded annually?
24. (i) Find the angle between the hands of a clock at 5.30? CO1- App (12)  
(ii) What was the day of the week on the date 21<sup>st</sup>March 2020?  
(iii) From a pack of 52 cards, 1 card is chosen at random. What is the probability of the card being diamond or queen?
25. (i) Probability of three students solving a question is  $\frac{1}{2}$ ,  $\frac{1}{3}$  and  $\frac{1}{4}$ . Find the Probability to solve the question is? CO1- App (12)  
(ii) In how many different ways can the letters of the word 'TRAINER' be arranged so that the vowels always come together?
26. Read the following information carefully and answer the questions given below: CO2- App (12)
- In a family, there are six members P, Q, R, S, T and U.
  - P and Q are married couple, P is the wife.
  - S is the only daughter of R who is the sister of P.
  - T is brother of S.
  - Q is son- in- law of U, whose wife is has died.
- (1) How is U related to P?  
(2) How is T related to R?  
(3) How is R related to Q?  
(4) How many male members are there in the family?  
(5) How is P related to T?
27. (i) Six students P, Q, R, S, T and U are sitting in a round table. P is immediate right of T. T is sitting opposite to Q. U is sitting in between R and Q. Then draw the rough diagram also find, CO2- App (12)  
(a) Who is sitting opposite to S?  
(b) Who is sitting immediate right of R?  
(c) Q is sitting in between?  
(ii) Rahul walked from the home to North 7 feet. Then he turned to the right and walked 3 feet. Again he turned to the right and walked 11 feet. How far is he from the home?
28. 1. Complete the given series, CmM, EoO, GqQ, IsS, \_\_\_\_\_? CO2- App (12)  
2.  $12 : 60 :: 21 : \text{-----}$   
3. Find the next number in the sequence 2, 5, 10, 17, 26, \_\_\_?  
4. Find the missing letters Z, S, W, O, T, K, Q, G, ?, ?  
5. MO : 13 11 :: HJ : ?  
6. Find the odd man out 473, 521, 792, 176, 682, 385.

