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Question Paper Code: U6031

B.E. / B.Tech. DEGREE EXAMINATION, APRIL / MAY 2025

Sixth Semester

Civil Engineering

21UGS631 - LOGICAL REASONING AND APTITUDE

(Regulation 2021)

(Common to BME and Biotech Engineering branches)

Duration: Three hours

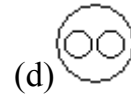
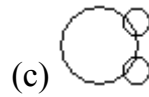
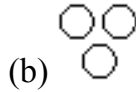
Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. The average of 13 results is 35. If the average of first 6 results is 38 and that of last 6 results is 33. Find the 7th result? CO1- App
(a) 31 (b) 29 (c) 30 (d) 32
2. 84% of a number is 105. The number is : CO1- App
(a) 120 (b) 125 (c) 112 (d) 115
3. The compound interest on Rs. 7400 at 5% per annum for 2 years is CO1- App
(a) Rs. 730 (b) Rs. 738 (c) Rs. 720 (d) Rs. 700
4. If 10 men can paint 10 chairs in 10 minutes, then 7 men can paint 7 chairs in CO1- App
(a) 7 min (b) 1 min (c) 70min (d) 10 min
5. How many times in a day, are the hands of a clock in straight line but in same direction? CO1- Un
(a) 44 (b) 24 (c) 48 (d) 22
6. Three coins are tossed. What is the probability getting exactly two tails? CO1- App
(a) $\frac{3}{8}$ (b) $\frac{1}{4}$ (c) $\frac{1}{8}$ (d) $\frac{1}{2}$

7. Which of the following diagrams indicates the best relation between Hockey, Football and Cricket? CO2- App



8. Your Brother's wife's sister is related to you CO2- App
- (a) Sister (b) Cousin (c) Sister in law (d) Aunt

9. Five persons A, B, C, D and E sitting in a row facing North. A is in the middle, B and E at the end. D is sitting immediate right of B. Who is left of A? CO2- App

- (a) C (b) E (c) D (d) None

10. In a certain code, MONKEY is written as XDJMNL. How is TIGER written in that code? CO2- App

- (a) QDFHS (b) SDFHS (c) SHFDQ (d) UJHFS

PART – B (10 x 2= 20 Marks)

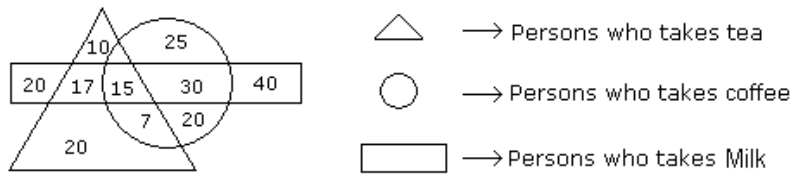
11. The average of 12 numbers is 24. If each number be added by 5. Then the average of new Set of numbers is _____ CO1- App
12. The ages of A and B are in the ratio of 4:3. If the sum of their ages is 42 years, what is the age of B? CO1- App
13. By selling an article for Rs. 384, a trader gains 10%. The cost price of article is _____ CO1- App
14. The speed of the car is 54 km/hr. What is the speed in m/s? CO1- App
15. 10 people at a party shake hands once with everyone else in the room. How many handshakes took place? CO1- App
16. Angle traced by hour hand in 12 hrs = CO1- App
17. P is the mother of K; K is the sister of D; D is the father of J. Then P is the _____ of J. CO2- App
18. Odd man out: 41, 43, 47, 53, 61, 63, 71, 73, is _____ CO2- App
19. What is the value of x? Using this given statements, CO2- App
- Statement : $A : x^2 = 16$;
- Statement : $B : x^3 = 64$;
20. Find the missing number: 132, 156, ?, 210, 240, 272 CO2- App

PART – C (5 x 12= 60 Marks)

Answer any **five** of the following questions

21. (i) The ratio of boys and girls in a school is 9:5. If the total number of students in the school is 1050. Then find the number of boys and Girls? CO1- App (12)
(ii) Three teams A, B and C contains 14, 11 and 15 members are earned the average points of 35, 31 and 33 respectively. Find the combined average of all the teams?
22. (i) Population of a village is eight thousand. If 6% men and 10% women are added, population becomes 8,600, then the number of men in the village was: CO1- App (12)
(ii) 8 years ago Rama's mother was five times older than her daughter. After 8 years the mother will be twice older than her daughter. Find the present age of Rama?
23. (i) A and B can do a work in 12 days, B and C in 15 days, C and A in 20 days. Then how long will they take to finish it together? CO1- App (12)
(ii) A man buys an item at Rs. 1800/- and sells it at the loss of 20 percent. Then what is the selling price of that item?
24. (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) What was the day of the week on the date 10th August 2018?
25. (i) In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg? CO1- App (12)
(ii) Find the angle between the minute hand and the hour hand of a clock when the time is 8.30?
26. (i) If P+Q means P is the brother of Q ; CO2- App (12)
If P*Q means P is the mother of Q;
If P+Q means P is the sister of Q,
If “R+P*S”, Then how is R related to S?
(ii) A man is facing north-west. He turns 90° in the clockwise direction, then 180° in the anticlockwise direction and then another 90° in the same direction. Which direction is he facing now?

27. Study the diagram given below and answer each of the following questions: CO2- App (12)



- (1) How many persons who take only Coffee?
 - (2) How many persons are there who take both tea and Milk but not Coffee?
 - (3) How many persons take Tea?
 - (4) How many persons are there who takes Coffee and Tea only?
 - (5) How many persons take all the three?
28. The results of half yearly and annual examinations are shown in the table given below: CO2- App (12)

Result	No. of Students			
	Section A	Section B	Section C	Section D
Students failed in both Exams	28	23	17	27
Students failed in half-yearly but passed in Annual Exams	14	12	8	13
Students passed in half-yearly but failed in Annual Exams	6	17	9	15
Students passed in both Exams	64	55	46	76

1. If the number of students passing an examination be considered a criteria for comparison of difficulty level of two examinations, which of the following statements is true in this context?

- A. Half yearly examinations were more difficult.
- B. Annual examinations were more difficult.

C. Both the examinations had almost the same difficulty level.

D. The two examinations cannot be compared for difficulty level.

2. How many students are there in Class IX in the school?

3. Which section has the maximum pass percentage in at least one of the two examinations?

4. Which section has the maximum success rate in annual examination?

5. Which section has the minimum failure rate in half yearly examination?

