

A

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Question Paper Code: 94031**

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

Fourth Semester

Agricultural Engineering

21UGS431 - Reasoning and Quantitative Aptitude

(Regulation 2021)

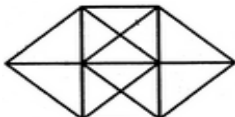
(Common to Mechanical, Electrical and Chemical Engineering)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

- If  $a : b = 3 : 4$  and  $b : c = 8 : 9$ . Then find  $a : c$  CO1- App  
(a) 1 : 3                      (b) 3 : 2                      (c) 2 : 3                      (d) 1 : 2
- The average of 13 results is 50. If the average of first 7 results is 52 and that of last 7 results is 49. Find the 7th result? CO1- App  
(a) 50                      (b) 52                      (c) 56                      (d) 57
- The simple interest on Rs. 7500 at 6% per annum for 8 years is CO1- App  
(a) Rs. 4200                      (b) Rs. 3600                      (c) Rs. 2800                      (d) Rs. 3000
- 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
- How many three digit numbers can be formed using the digits {0, 1, 2, 3, 4} (Repetition of digits is not allowed)? CO1- App  
(a) 60                      (b) 48                      (c) 64                      (d) 125
- Which of the following is a leap year? CO1- App  
(a) 1951                      (b) 2003                      (c) 2018                      (d) 1996
- Find the number of triangles in the given figure. CO2- App  
  
(a) 20                      (b) 24                      (c) 32                      (d) 28
- $4 : 19 :: 7 : ?$  CO2- App  
(a) 52                      (b) 49                      (c) 28                      (d) 68
- Question:** The last Sunday of March, 2006 fell on which date? CO2- App  
**Statements:**  
The first Sunday of that month fell on 5th.

The last day of that month was Friday.

- (a) I alone is sufficient while II alone is not sufficient  
(b) II alone is sufficient while I alone is not sufficient  
(c) Either I or II is sufficient  
(d) Neither I nor II is sufficient  
(e) Both I and II are sufficient

10. If ROSE is coded as 6821, CHAIR is coded as 73456 and PREACH is coded as 961473, what will be the code for SEARCH? CO2- App  
(a) 246173 (b) 214673 (c) 214763 (d) 216473

PART – B (10 x 2= 20 Marks)

11. The 4<sup>th</sup> proportional to 4, 16 and 7 is \_\_\_\_\_ CO1- App  
12. The ages of A and B are in the ratio of 4:3. If the sum of their ages is 28 years, what is the age of B? CO1- App  
13. By selling an article for Rs. 384, a trader gains 20%. The cost price of article is \_\_\_\_\_ CO1- App  
14. The Difference between C.I and S.I on a sum of Rs. 10000 for two years at a rate of 5% interest is \_\_\_\_\_ CO1- App  
15.  $5P_0 =$  \_\_\_\_\_ CO1- App  
16. 1 leap year has \_\_\_\_\_ odd days. CO1- App  
17. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at the ends. R is sitting to the left of A. Then \_\_\_\_\_ is to the left of R? CO2- App  
18.  $123 : 13^2 :: 235 : \underline{\hspace{2cm}}$  CO2- App  
19. What is the value of x? Using this given statements, CO2- App  
Statement : A :  $x^2 = 64$ ;  
Statement : B :  $x^3 = 512$ ;  
20. Fill the blank in the series: QPO, NML, KJI, \_\_\_\_\_, EDC CO2- AP

PART – C (5 x 12= 60 Marks)

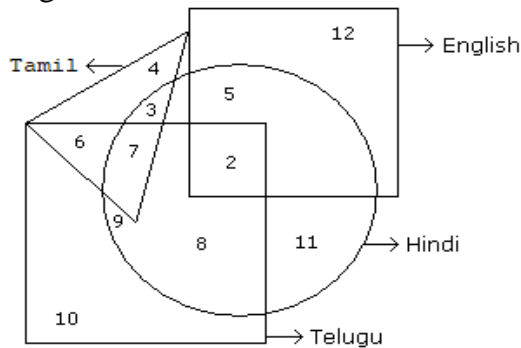
Answer any **five** of the following questions

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) 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:  
22. (i) The average weight of a group of 150 students in a class is 60 kg. If the mean of the weights of all the 50 male students in the class is 70 kg. Find the average weight of 100 girls in the class? 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 man travels from his home to office at 4km/hr and reaches his office 20 min late. If the Speed had been 6 km/hr he would have reached 10 min early. Find the distance from his home to office. CO1- App (12)  
(ii) A man deposits Rs. 5000/- in his bank account for 5 years to earn an interest of 12%. What amount will he get after 5 years?
24. (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 individually? CO1- App (12)  
(ii) If the cost price of 12 pens is equal to the selling price of 8 pens, the gain percent is?
25. (i) How many arrangements can be made out of the letters of the word COMMITTEE, taken all at a time, such that the four vowels do not come together? CO1- App (12)  
(ii) Find the same calendar for the year; will be the same as for the year 2007?
26. (i) A and B are brothers. E is the daughter of F. F is the wife of B. What is the relation of E to A? CO2- App (12)  
(ii) A man is facing north-west. He turns  $90^\circ$  in the clockwise direction, then  $180^\circ$  in the anticlockwise direction and then another  $90^\circ$  in the same direction. Which direction is he facing now?
27. Read the following information given below and answer the questions that follow. CO3- Ana (12)
- P, Q, R, S, T, U and V are seven friends and are sitting in a circle facing the center of the circle.
  - V is second to the left of S and is the neighbor of T and U.
  - S is not a neighbor of R or T.
  - P is neighbor of Q and R.
1. Who is the 2<sup>nd</sup> to right of R?

2. Who is immediate left of U?
3. Who is in between P and S?
4. T is one of the neighbors of R then who is the other neighbor?
5. "U is to the immediate left of V" True or False?

28. In the following figure Small Square represents the persons who know English, triangle to those who know Marathi, big square to those who know Telugu and circle to those who know Hindi. In the different regions of the figures from 1 to 12 are given. CO3- Ana (12)



1. How many persons can speak English and Hindi both the languages only?
2. How many persons can speak Tamil and Telugu both?
3. How many persons can speak only English?
4. How many persons can speak English, Hindi and Telugu?
5. How many persons can speak all the languages?