

A

Reg. No. :

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

Question Paper Code: U5031

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

Fifth Semester

21UGS531 - 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)

1. A number when increased by 12% gives 224. What is the number? CO1- Ap
(a) 248 (b) 212 (c) 236 (d) 200
2. If the digits of my present age are reversed then I get the age of my son. CO1- Ap
If 1 year ago my age was twice as that of my son. Find my present age.
(a) 42 (b) 52 (c) 63 (d) 73
3. A man sells two wrist watches at Rs. 594 each. On one he gains 10% CO1- Ap
and on the other he loses 10%. Find the gain or loss percent on the
whole
(a) Loss 90% (b) Gain 5% (c) Loss 1% (d) Gain 7%
4. How long will a boy take to run round a square field of side 35 CO1- Ap
meters, If he runs at the rate of 9 km/hr?
(a) 50 sec (b) 52 sec (c) 54 sec (d) 56 sec
5. Find the value of ${}^{11}C_9$? CO1- Ap
(a) 35 (b) 55 (c) 21 (d) $7! / 4!$
6. What is the probability that a leap year has 53 Sundays? CO1- Ap
(a) $1/7$ (b) $2/7$ (c) $5/7$ (d) $4/7$
7. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A CO2- AP
and P are at the ends. R is sitting to the left of A. Who is to the
right of P?
(a) A (b) X (c) S (d) Z
8. Tina drives 45 kms towards East, turns right and drives 65 CO2- Ap
kms, then turns left and drives 33 kms. In which direction is
she facing now?
(a) East (b) North (c) West (d) South

9. **Statements:** Some papers are pens. All the pencils are pens. CO2- Ap
Conclusions:
 (1) Some pens are pencils.
 (2) Some pens are papers.
 (a) Only (1) conclusion follows (b) Only (2) conclusion follows (c) Either (1) or (2) follows (d) Neither (1) nor (2) follows
 (e) Both (1) and (2) follow
10. In a certain code language, "CASIO" is written as "3119915". How is "CITIZEN" written in that code language? CO2- AP
 (a) 295629134 (b) 3192295614 (c) 3912659214 (d) 3920926514

PART – B (10 x 2= 20 Marks)

11. 40% of a number is 80. What is 30% of one – fourth of the number? CO1- Ap
12. After 5 years, age of Neeru would be 28 years. Then 8 years ago her age was _____ CO1- AP
13. The price of two tables and three chairs is Rs.5600. The price of six tables and nine chairs is _____ CO1- AP
14. A man travels a distance of 2 km by walking at a speed of 6 km/hr. He returns back at a speed of 4 km/hr. what is his average speed? CO1- AP
15. A card is randomly drawn from a deck of 52 cards. The probability of getting a King is _____ CO1- AP
16. When the two hands are at right angles, they are _____ minute spaces apart. CO1- AP
17. Six friends A, B, C, D, E and F are sitting in a closed circle facing the centre. E is to the left of D. C is between A and B. F is between E and A. Then _____ is to the right of C. CO2- AP
18. NATION : ANTINO :: HUNGRY : _____ CO2- AP
19. Find the missing number in the sequence 3, 7, 15, ?, 63, 127 CO2- AP
20. In a certain code STAR is written as 5\$*2 and TORE is written a \$32@. How is OATS written in that code? CO2- AP

PART – C (5 x 12= 60 Marks)

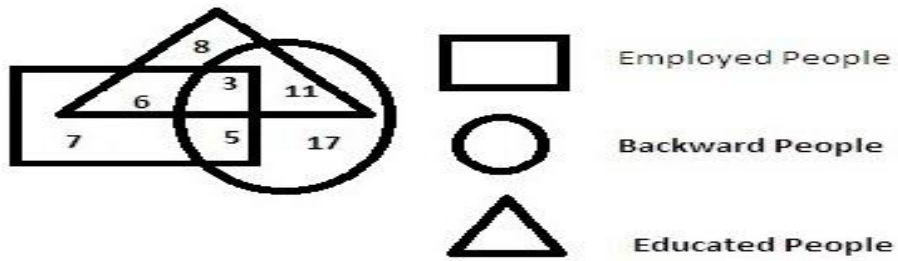
Answer any **five** of the following questions

21. (i) In an Examination 35% of students passed and 155 failed. Find the total number of students appeared for the examination? CO1- Ap (12)
 (ii) 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?

22. (i) If the cost price of 8 pens is equal to the selling price of 12 pens, the gain or Loss percent is? CO1- Ap (12)
(ii) A man starts running between places from A to B. He goes from A to B at a slower speed of 12 km/hr and returns B to A at a fast speed. If his average speed for the whole journey is 15 km/hr, at what speed did he return?
23. (i) A bag contains 50 p, 25 P and 10 p coins in the ratio 5: 9: 4, amounting to Rs. 206. Find the number of coins of each type. (ii) A man is 24 years older than his son. In two years, his age will be twice the age of his son. Find their present ages? CO1- Ap (12)
24. (i) The cost of Type 1 material is Rs. 15 per kg and Type 2 material is Rs.20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2 : 3, then what is the price per kg of the mixed variety of material? CO1- Ap (12)
(ii) A committee of 5 persons is to be formed from 6 men and 4 women. In how many ways can this be done when at least 2 women are included?
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- Ap (12)
(ii) Find the angle between the minute hand and the hour hand of a clock when the time is 10.20?
26. Read the following information carefully and answer the questions given below: CO3- An (12)
- Seven students, A, B, C, D, E, F and G are sitting in the first row of the class facing the teacher.
 - B is third to left of C who is third to right end.
 - G is second to right of D.
 - F and D are at two ends.
 - A is second to left of E and second to right of B.
- (1) Who is sitting in the middle of the row?
(2) Which of them is sitting to the right of G?
(3) Who is seated between A and E?
(4) What are the neighbors of E?
(5) Who is left of B?
27. (i) Raju to a girl in the photograph, Kamal's said, 'Her mother's brother is the only son of my mother's father'. How is the girl's mother related Kamal? CO2- Ap (12)
(ii) Ajay walks 24 km towards East and turns to right hand side and takes a drive of another 10 km. He then turning to his right (drives towards West) another 10 km. He then turns to his left & walks another 8 km. After that, he turns to his right & travels 14 km. How

far is he from his initial point & in which direction?

28. Study the diagram given below and answer each of the following CO3- An (12) questions:



- (1) How many educated people are employed?
- (2) How many backward people are educated?
- (3) How many backward uneducated people are employed?
- (4) How many backward people are not educated?
- (5) How many employed People are uneducated?