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Question Paper Code: 96031

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

Fourth Semester

Civil Engineering

19UGS631 - Logical Reasoning and Aptitude

(Regulation 2019)

(Common to Biomedical Engineering)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

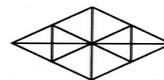
PART A - (10 x 2 = 20 Marks)

1. If the price of a book is first decreased by 20% and then increased by 20%, then the net change in the price will be CO1- U
(a) No Change (b) 40% decreased (c) 4% increased (d) 4% decreased
2. Ratio between two numbers is 3:2 and their difference is 225, then the smaller number is: CO1- U
(a) 90 (b) 675 (c) 135 (d) 450
3. If the digits of my present age are reversed then I get the age of my son. If 1 year ago my age was twice as that of my son. Find my present age. CO1- U
(a) 42 (b) 52 (c) 63 (d) 73
4. A man buys a cycle for Rs.1400 and sells it at a loss of 15%. What is the selling price of the cycle? CO1- U
(a) Rs. 1090 (b) Rs. 1190 (c) Rs. 1160 (d) Rs. 1202
5. Find the ratio in which rice at Rs. 7.20 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg. CO1- U
(a) 2 : 3 (b) 4 : 3 (c) 3 : 2 (d) 3 : 4
6. In a row of 25 boys, Mithun is twelfth from the left and Nitin is eighth from the right. How many boys are between them? CO1- U
(a) 4 (b) 7 (c) 6 (d) 5
7. Lakshman went 15 km to the West of his house, and then turned left and walked 20 km. He then turned East and walked 25 km and finally turning left covered 20 km. How far was he from his house? CO1- U
(a) 5 km (b) 10 km (c) 40 km (d) 80 km

8. If P is the brother of Q, Q is the sister of R, and R is the father of S, how is P related to S? CO1- U
- (a) Father (b) Maternal Uncle (c) Paternal Grandpa (d) Paternal Uncle.
9. BEGK : ADFJ :: PSVY : ? CO1- U
- (a) ROUX (b) ORUX (c) LQUT (d) LOQT
10. Find the Odd man out 196, 169, 144, 121, 100, 80, 64 CO1- U
- (a) 121 (b) 80 (c) 169 (d) 64

PART – B (10 x 2= 20 Marks)

11. The triplicate ratio of 3 : 11 _____ . CO1- U
12. An athlete runs 200m race in 24 seconds. Then his speed is _____ CO1- U
13. A card is randomly drawn from a deck of 52 cards. The probability of getting a King is _____ CO1- U
14. Hands of a clock coincide _____ times in a day. CO1- U
15. March 5, 1999 was on Friday, Then the day of the week on March 5, 2002 is _____ CO1- U
16. You go North, turns right, then right again and then go to the left .In _____ direction are you now CO1- U
17. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, A related to D is _____ CO1- U
18. Missing term in the given alternatives C4X, F9U, I16R, _____ CO1- U
19. If white is called blue, blue is called red, red is called yellow, yellow is called green, green is called Black, black is called violet and violet is called orange, The colour of human blood is called on _____ CO1- U
20. The number of triangles in the given figure is _____ CO1- U



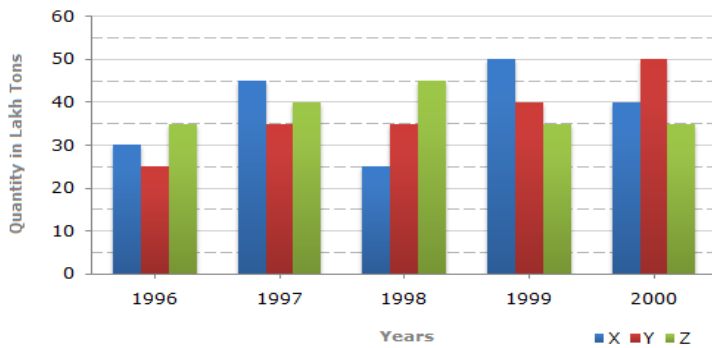
PART – C (5 x 12= 60 Marks)

Answer any **five** of the following questions

21. (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- App (12)
- (ii) A card is randomly drawn from a deck of 52 cards. What is the probability getting an Ace or King or Queen?
22. (i) A clock is set right at 8 a.m. The clock gains 10 minutes in 24 hours will be the true time when the clock indicates 1 p.m. on the following day? CO1- App (12)
- (ii) What was the day of the week falls on 26 January 1950?

23. (i) 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? CO1- App (12)
- (ii) 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?
24. (i) The compound interest on Rs.1800 at 10% per annum for a certain period of time is 378. Find the time in years? CO1- App (12)
- (ii) The average age of a group of 10 students is 15 years. When 5 more students join the group the average age increase by 1 year. What is the average of new students?
25. (i) Read the following information carefully and answer the questions given below: CO1- App (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.
- a) Who is sitting in the middle of the row?
 - b) Which of them is sitting to the right of G?
 - c) Who is seated between A and E?
 - d) What are the neighbors E?
- (ii) A child went 90 m in the East to look for his father, then he turned right and went 20 m. After this he turned right and after going 30 m he reached to his uncle's house. His father was not there. From there he went 100 m to his north and met his father. How far did he meet his father from the starting point?
26. (i) If $P + Q$ means P is the sister of Q; CO1- App (12)
- $P - Q$ means P is the brother of Q;
- $P * Q$ means P is the daughter Q:
- If $A - B - C + D * E$, how is E related to A?
- (ii) There is a family of six persons A, B, C, D, E and F. They are Lawyer, Doctor, Teacher, Salesman, Engineer and Accountant There are two married couples in the family. D, the Salesman is married to the Lady Teacher. The Doctor is married to the Lawyer. F, the Accountant is the son of B and brother of E. C, the Lawyer is the daughter-in-law of A. E is the unmarried Engineer. A is the grandmother of F. What is the profession of B?

27. The bar graph given below shows the data of the production of paper (in lakh tonnes) by three different companies X, Y and Z over the years. CO1- App (12)



- For which of the given years, the percentage rise/fall in production from the previous year is the maximum for Company Y?
 - What is the ratio of the average production of Company X in the period 1998-2000 to the average production of Company Y in the same period?
 - The average production for five years was maximum for which company?
 - In which year was the percentage of production of Company Z to the production of Company Y the maximum?
 - What is the percentage increase in the production of Company Y from 1996 to 1999?
28. (i) Statements: All buildings are chalks. No chalk is toffee. CO1- App (12)
- Conclusions:
- No building is toffee
 - All chalks are buildings.
- On the basis of the given statements, **you should draw all the possible diagrams**, and then derive the solution from each of these diagrams separately. Finally, the answer common to the all the diagrams is taken.
- Give answer:
- If only (1) conclusion follows
 - If only (2) conclusion follows
 - If either (1) or (2) follows
 - If neither (1) nor (2) follows and
 - If both (1) and (2) follow.
- (ii) Decoding the following
- In a certain code language, '123' means 'hot filtered coffee'. '356' means 'very hot day' and '589' means 'day and night'. Which digit stands for 'very'?
 - In a certain code, DECEMBER is written as ERMBCEDE. Which word will be written as ERMBVENO in that code?

