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Reg. No. :

Question Paper Code: 94031

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2023

Fourth Semester

Electrical and Electronics Engineering

19UGS431 - Reasoning and Quantitative Aptitude

(Regulation 2019)

(Common to Mechanical, Agriculture and chemical Engineering)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. If 20% of a = b, then b% of 20 is the same as   CO1- U

    (a) 4% of a   (b) 6% of a   (c) 8% of a   10% of a

2. Ratio between two numbers is 3:2 and their difference is 225, then the smaller   CO2- U
    number is:

    (a) 90   (b) 675   (c) 135   (d) 450

3. A man buys a cycle for Rs.1400 and sells it at a loss of 15%. What is the selling   CO2- U
    price of the cycle

    (a) Rs. 1090   (b) Rs. 1190   (c) Rs. 1160   (d) Rs. 1202

4. A sum of Rs. 1200/- lent at Simple interest at 10% will become twice in how   CO1- U
    many years?

    (a) 12 years   (b) 14 years   (c) 10 years   (d) 8 years

5. 12 people at a party shake hands once with everyone else in the room. How   CO1- U
    many handshakes took place?

    (a) 72   (b) 66   (c) 64   (d) 76

6. A, B, C, D, E and F are sitting in a row. D and E are in the center. A and B are   CO1- U
    at the ends. C is sitting to the left of A. E is to the right of D. Who is to the right
    of B?

    (a) D   (b) E   (c) F   (d) C

7. If B's mother was A's mother's daughter, How is A related to B   CO1- U

    (a) Maternal Uncle   (b) Father   (c) Brother   (d) Sister
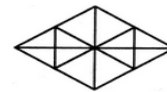
8. Find the Odd man out 8, 27, 64, 100, 125, 216, 343　　　　　　　　　　CO1- U

(a) 27　　　　　(b) 100　　　　　　　　(c) 125　　　　　　　　　(d) 343

9. Which of the following diagrams indicates the best relation between Earth, Sea and Sun?　　　　　　　　　　CO1- U

(a)　　　　　　　　(b)　　　　　　　　(c)　　　　　　　　(d)

10. If ZEBRA can be written as 2652181, how can COBRA be written?　　　　CO1- U

(a)　　(b) (c)　(d)

(a) 302181　　　　　(b) 3152181　　　　　(c) 31822151　　　　(d) 1182153

PART – B (10 x 2= 20 Marks)

11. The average of a number of terms is 8. If each term is added by 2, the new average is _____　　　　　　　　　CO1- U

12. Two years ago Oliver age was twice that of Walter. Now Walter is 16 years old. Then Oliver age is _____　　　　CO1- U

13. The speed of the car is 10 m/s. Its equivalent speed in km/h is _____　　CO1- U

14. If 4 men can painted 48 m long wall in 2 days, then 6 men can painted 36 m long wall in _____ days.　　CO1- U

15. When a coin is tossed thrice we get the number of sample space is _____　CO1- U

16. A girl facing north rotates 100(degree) clockwise then 190(degree) anticlockwise. Now the girl facing on _____.　　CO1- U

17. 49 : 81 :: 100 : _____　　　　　　　　　CO1- U

18. 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

19. Insert the missing number: 2, 4, 12, 48, 240, _____　　　CO1- U

20. The number of triangles in the given figure is_____　　　　CO1- U

PART – C (5 x 12= 60 Marks)

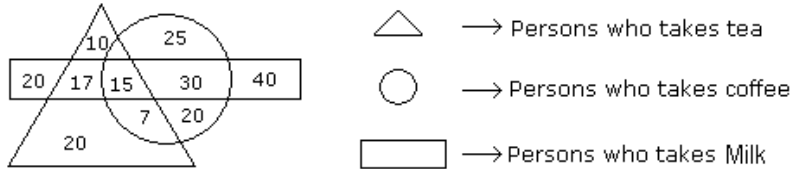Answer any **five** of the following questions

21. (i) Find the reflex angle between the hands of a clock at 10.25?　　CO1- App　(12)

(ii) After the regular interval of how many minutes, do the minute hand and hour hand coincide?

(iii) 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?

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22. (i) Find: CO1- App (12)

   (a) The fourth proportional to 6, 8, 15;

   (b) The third proportional to 15 and 20;

   (c) The mean proportional between 8 and 15

   (ii) 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.

23. (i) On what dates of April, 2001 did Wednesday fall?   CO1- App (12)

   (ii) What was the day of the week falls on 26 January 1950?

   (iii)Which year has the same calendar as that of 2009?

24. (i) A card is randomly drawn from a deck of 52 cards. What is the probability CO1- App (12)
   getting an Ace or King or Queen?

   (ii) John and Mark go for an interview for two vacancies. The probability for the selection of John is 1/5 whereas the probability for the selection of Mark is 1/7. What is the probability that only one of them is selected?

25. (i) Read the following information carefully and answer the questions given   CO1- App (12)
   below:

   ➢ A, B, C, D, E and F are six friends are sitting in a circle facing the center.
   ➢ F is the 4th left of E
   ➢ A is not between D and E but some other one.
   ➢ C is next left of F.
   a) Who is left of D?
   b) What is the position of E?
   c) Who is sitting just right to D?
   d) Who is right of E?
   e) Who is facing D?

   (ii) Sowmya Krishnan walked 20 m towards the north. Then she turned right and walks 30 m. Then she turns right and walks 35 m. Then she turns left and walks 15 m. Finally she turns left and walks 15 m. In which direction and how many meters is she from the starting position?

26. (i) Read the following information carefully and answer the questions given   CO1- App (12)
   below:

   • 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.
   (i) How is U related to P?
   (ii) How is T related to R?

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(iii) How is R related to Q?

(iv) How many male members are there in the family?

(v) How is P related to T?

(ii) If P + Q means P is the sister of Q;

P – Q means P is the brother of Q;

P * Q means P is the daughter Q:
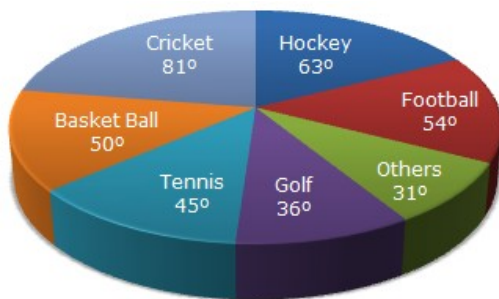
If A – B – C + D * E, how is E related to A?

27. (i) Study the diagram given below and answer each of the following questions: CO1- App   (12)

a) How many persons who take Coffee and Milk but not tea?

b) How many persons are there who take both tea and coffee but not Milk?

c) How many persons take Tea?

d) How many persons are there who takes only Milk?

e) (v)) How many persons take all the three?

(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?

28. The circle-graph given here shows the spending of a country on various sports   CO1- App   (12)
during a particular year. Study the graph carefully and answer the questions given below it.

1. What percent of total spending is spent on Tennis?

2. How much percent more is spent on Hockey than that on Golf?

3. If the total amount spent on sports during the year be Rs. 1,80,00,000 , the amount spent on Basketball exceeds on Tennis by:

4. How much percent less is spent on Football than that on Cricket?

5. If the total amount spent on sports during the year was Rs. 2 crores, the amount spent on Cricket and Hockey together was:

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