TB245489J

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2024

2022 ADMISSIONS REGULAR

SEMESTER V - OPEN COURSE

EC5D01BB18 - Logic and Reasoning Aptitude

Time : 3 Hours **Maximum Marks : 80**

Part A

I. Answer any Ten questions. Each question carries 2 marks **(10x2=20)**

1. State induction
2. Describe two types of reasoning in logic
3. What is proposition?
4. Draw Venn diagram for 'A' proposition.
5. What is contradictories in traditional square of opposition.
6. What is term?
7. What is mood of syllogism?
8. What is Syllogism?
9. What is modus ponens?
10. Define molecular propositions.
11. What is implication?
12. State modus ponens.

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. Bring out the differences between induction and deduction?
14. Name the quantity and quality of the following and state whether their subject and predicate terms are distributed or undistributed.
    a. All leaders of the feminist movement is a major business executives.
    b. Some recently identified unstable elements were not entirely accidental discoveries.
15. Explain any two relations in the traditional square of opposition.
16. Differentiate between 'I' and 'O' propositions.
17. Discuss the fallacy of illicit major and illicit minor.
18. Find out the fallacy committed by this argument and explain.
    All crows are birds
    Some wolves are not crows
    Therefore, some wolves are birds.
19. Explain the fallacy of four terms.
20. Find the validity/ invalidity of the following arguments using shorter truth table method. a.(P ⊃ Q) ⊃ R P V R ∴ Q V R b. A ⊃B C ⊃ D A V D ∴ B V C
21. Construct the formal proof of validity for the following argument. (N v O) ⊃ P (P V Q) ⊃ R Q V N ~ Q ∴ R.

Part C

III. Answer any Two questions. Each question carries 15 marks **(2x15=30)**

22. Write an essay on the difference between mediate and immediate inferences

23. Write an essay on rules and fallacies of categorical syllogism.
24. Use truth table method to prove the validity / invalidity of the following argument. $P \supset [(Q \cdot R) \cdot (S \cdot T)]$ $P \therefore (Q \cdot R) \cdot (S \cdot T)$
25. Construct formal proof of validity of the following argument.

- $P \supset Q$
  $Q \supset (S \vee R)$
  $R \supset T$
  $T \supset U$
  $S \supset Y$
  P
  $\sim Y$
  $\therefore U$