

TB205245V

Reg. No:.....,

Name:

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2022
2020 ADMISSIONS REGULAR AND 2019, 2018 ADMISSIONS SUPPLEMENTARY
SEMESTER V – OPEN COURSE (ECONOMICS)
EC5D01BB18 - LOGIC AND REASONING APTITUDE

Time: 3Hrs

Total Marks: 80

Part- A

Answer any 10 questions. Each question carries 2 marks.

1. If 'A' proposition is true then 'O' proposition is
a. Uncertain b. True
c. All true d. False
2. In a symbolic logic,do not change their value.
a. Constant b. Variables
c. inference d. syllogism
3. The propositions that distribute subject
a. I and A b. O and E
c. I and O d. E and A
4. For a conditional to be true the conjunction "p. ~q" must be
a. True or False b. Undetermined
c. True d. False
5. Validity of deductive argument depends on.....
a. Form of argument b. Matter of argument
c. Both form and matter d. Truth of premises and conclusions
6. 'Today is Thursday or Saturday' is an example for.....
a. Implication b. Disjunction
c. Bi-conditional d. Negation
7. The negation of $A \vee B$ is symbolized as
a. $\sim A \vee \sim B$ b. $\sim(A \vee B)$
c. $\sim A \vee B$ d. $A \vee \sim B$
8. Fallacy of Affirming the Consequent- is symbolized as
a. $P \supset q$ b. $P \supset q$ c. $P \supset q$ d. $P \supset q$
 $\sim q$ p q $\sim P$
 $\therefore \sim P$ $\therefore q$ $\therefore P$ $\therefore \sim q$

9. Two statements are when their material equivalence is a tautology
 a. self-contradictory b. contingent
 c. logically equivalent d. materially implying
10. $\sim(p \vee q)$ is logically equivalent to
 a. $\sim p, \sim q$ b. $p \vee \sim q$
 c. $\sim p \vee q$ d. $p \vee \sim q$
11. The proposition arrived at on the basis of proposition or propositions in an argument, is called.....
 a. premise b. modus ponens
 c. conclusion d. modus tollens
12. Logic is the
 a. science of reasoning b. science of beauty
 c. science of morality d. science of astronomy

(10 x 2 = 20)

Part – B

Answer any 6 questions. Each question carries 5 marks.

13. The following syllogisms are in standard form. Identify the major, minor, and middle terms, and the mood and figure of each.

1. All neutron stars are things that produce intense gravity.

All neutron stars are extremely dense objects.

Therefore, all extremely dense objects are things that produce intense gravity.

2. No insects that eat mosquitoes are insects that should be killed.

All dragonflies are insects that eat mosquitoes.

Therefore, no dragonflies are insects that should be killed

14. Give a short note on the Structure of ‘Truth Tree Method’.

15. Construct Simple constructive dilemma and Complex destructive dilemma from the following statement;

“If the sun shines tomorrow, we will go to the beach and if it rains tomorrow, we will go to the museum”.

16. Use the truth tables to characterize the following statement form as a Tautologies, Self-contradictory or Contingent.

i. $[p \supset (p \supset q)] \supset q$

ii. $P \supset [p \supset (q \cdot \sim q)]$

17. Prove the invalidity of each of the following by the method of assigning truth values.

$$A \supset B$$

$$C \supset D$$

$$A \vee D$$

$$\therefore B \vee C$$

18. Discuss the distinction between Traditional and Symbolic logic.

19. Construct Truth tables for all forms of Compound propositions.

20. Test the validity of the following argument with the help of formal proof of validity.

“If Rakhi is nominated, she will go to Delhi. If she goes to Delhi, then she will campaign there. If she campaigns there, then she will meet Soja. Rakhi will not meet Soja. Either Rakhi will be nominated or someone more eligible will be selected. Therefore someone more eligible will be selected.”

21. Perform the operations of conversion, obversion, and contraposition:

a. All homes contaminated by radon gas are potential causes of lung cancer.

b. No sex-change operations are completely successful procedures.

(6 x 5 =30)

Part – C

Answer any 2 questions. Each question carries 15 marks.

22. What is a Syllogism? Discuss rules and fallacies of Categorical Syllogism.

23. State the rules of inference by which the conclusion follows from premise or premises:

a) $X \vee (Y \cdot Z)$

$$X \supset W$$

$$\sim W / \therefore Z$$

b) $F \supset Q$

$R \vee \sim Q$

$\sim R / \therefore \sim F$

24. Give a Detail account on 'Decomposition Rules' in Truth – tree method.

25. What is Eduction? Explain the rules of Conversion, Obversion and Contraposition.

(2 x 15 =30)
