



**COOCH BEHAR PANCHANAN BARMA UNIVERSITY**

B.A. Honours 5th Semester Examinations, 2021, held in 2022

Under Revised Syllabus

**PHILOSOPHY**

**WESTERN LOGIC-II**

**CORE-12**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.*

**(REVISED SYLLABUS)**

- Answer any two questions from the following** 20×2 = 40
1. (a) (i) What is CNF? Transform the following statement into CNF: 1+4  
 $[(p \supset q) \cdot \sim q] \supset p$
  - (ii) What is DNF? Transform the following statement into DNF: 1+4  
 $[(p \supset q) \vee q] \cdot \sim q$
  - (b) Transform the following statements into Shaffer's stroke function: 5+5
    - (i)  $(\sim p \cdot \sim q) \supset \sim(p \vee q)$
    - (ii)  $(p \cdot \sim q) \supset (q \cdot \sim p)$
  2. (a) Distinguish between Proposition and Propositional function. 5
  - (b) Construct a formal proof of Validity of the following arguments: 5+5
    - (i)  $(X)(Fx \supset Gx)$   
 $(\exists x)(Fx \cdot \sim Gx) / \therefore (\exists x)(Gx \cdot \sim Fx)$
    - (ii) No gamblers are happy. Some idealists are happy. So some idealists are not gamblers  $(Gx, Hx, Ix)$
  - (c) Prove the invalidity of the following argument: 5  
 $(\exists x)(Yx \cdot Zx)$   
 $(\exists x)(Ax \cdot Zx) / \therefore (\exists x)(Ax \cdot \sim Yx)$
  3. Explain Mill's method of concomitant variation with examples. In what sense is this method important as the first quantitative method of inductive inference? 15+5

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