

Ex/Phil/PG/3.4.4/70/2017

MASTER OF ARTS EXAMINATION, 2017

(2nd Year, 3rd Semester)

PHILOSOPHY

(Logic - I)

Full Marks : 30

Time : Two Hours

The figures in the margin indicate full marks.

1. Analyse, after A. N. Prior, the notion of an analytically valid inference. Show that from the premises of an analytically valid inference any statement whatsoever may be inferred.

10

Or

2. Write in your own words whether connectives can be defined in terms of deducibility.

10

3. (a) Define the notion of a sequent. What does a sequent mean if the antecedent is empty? If both the antecedent and the succedent are empty what meaning would you assign to the sequent?

- (b) How is a proof figure different from an inference figure?

3+2

[*Turn over*]

[2]

Or

4. (a) State the schemata for structural inference figure.
(b) How do you distinguish between LJ and LK derivation ?
3+2

5. Prove in LJ the following without using cut :
 $(\neg\exists x Fx) \supset (\forall y \neg Fy)$ 5

Or

6. Derive in LK $(\neg A \supset \neg B) \supset (B \supset A)$ 5

7. Prove in LJ $A \vee \neg A$ 5

Or

8. Prove in LK $A \vee \neg A$ 5

9. What is mental construction as discussed by the intuitionists ?
Why are the intuitionists called constructivists ? 5

Or

10. 'Mathematical statements do not relate to an objective mathematical reality existing independent of us' — explain Dummett's view in the context of intuitionistic logic. 5