

2020

Time : 3 hours

Full Marks : 75

SEM - II

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from both the Groups as directed.

Group – A

(Compulsory)

1. Answer the following questions : $1 \times 10 = 10$

- (a) Define graph
- (b) Define tree
- (c) What is tatulogy. Give with example.
- (d) What is set.
- (e) Define graph isomorphism

- (f) Explain path and circuit in graph
- (g) What are logical connectives
- (h) Define graph coloring
- (i) Explain spanning tree.
- (j) Define function.

2. Explain different types of relations. 5

Group – B

Answer any four of the following questions :

15×4 = 60

- 3. What are the basic operations on set. Give with an example.
- 4. (a) Explain bounding summation.
(b) Explain Equivalences and logical connectives.
- 5. (a) Explain properties of a tree.
(b) Explain Hamiltonian path problem with example.
- 6. Explain Recurrence relation and Recurrence Tree with example.

- 7. (a) Define power set, Empty set and universal set.
(b) Determine the power set Power (A) of A = (a, b, c, d)
- 8. Write short notes on the following :
(a) Planar graph
(b) Well formed formula

