

COMPUTER SCIENCETIME ALLOWED: 3 HOURSMAXIMUM MARKS: 100Attempt total **five questions**Attempt at **least one question** from each section.

Each question carries 20 Marks

**SECTION-A**

- Q. No 1 (A) What do you mean by Process Control Block? Explain in detail? Marks: 10  
(B) Briefly explain five state process model? Marks: 10
- Q. No 2 (A) Differentiate between pre-emptive and non pre-emptive scheduling with examples? Marks: 10  
(B) How operating system does segmentation? Explain mapping process? Marks: 10
- Q. No 3 (A) Which layer of OSI model does segmentation? Explain all the functions of that layer? Marks: 10  
(B) How would you differentiate between UDP and TCP? Marks: 10

**SECTION-B**

- Q4) (A) What is two dimensional array? Write a program that finds the sum of two 3 x 3 matrices. Marks: 10  
(B) Define Polymorphism? How it is implemented in C++? Marks: 10
- Q5 (A) Write binary search algorithm? Marks: 10  
Given a list of data items apply binary search algorithm to find the key item 69?  
19 27 32 54 69 73 87 99  
(B) How will you search an item in a linked list. Write algorithm? Marks: 10
- Q6 Explain the following software development process models briefly? Marks: 20  
1. Waterfall Model 2. Spiral Model 3. Iterative Model 4. Incremental Model