[This question paper contains 2 printed pages]

Your Roll No

7231 **J**

M.Sc. / I

OPERATIONAL RESEARCH—Course III (A)

(Object Oriented Programming)

(Admissions of 2008 and before)

Time 3 *Hours* *Maximum Marks* 70

(Write your Roll No on the top immediately on receipt of this question paper)

Attempt any ***five*** *questions*

All *questions carry equal marks*

1 (a) Discuss the notion of structures is C with the help of an example Write the code to show how structures are passed and returned during a function call ?

(b) Discuss the concept of storage classes in C Write the difference between storage class modifiers and storage class specifiers 4½×2=9

2 (a) How are input and output streams handled in C++? Discuss your answer in the context of hybrid inheritance as applicable in C++

(b) How are friend functions and friend classes implemented in C++ ? Does the concept of friend function violate S/w security ? Comment 4½×2=9

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3 (a) Write the syntax for createwindow( ) for a C program implemented under windows operating system How is message loop implemented in windows operating system ?

(b) Write C syntax of file handling operations such as fopem( ) fclose( ), fgetc( ), fputc( ) and fseek( ) with the help of examples 4½×2=9

4 Explain the term job scheduling Differentiate between swapper and dispatcher How is round robin scheduling implemented in windows ? 9

5 (a) What are binary semaphores ? How are they advantages in comparison with other interprocess communication methods ?

(b) Give conditions for deadlock to occur What is the difference between deadlock prevention and avoidance ? How are deadlocks detected ? 4½×2=9

6 (a) Discuss segmentation with paging with the help of a block diagram

(b) Explain page replacement policies implemented in windows 4½×2=9