No. of Printed Pages : 1

MMT-001(P)

M.Sc. (MATHEMATICS WITH APPLICATIONS IN COMPUTER SCIENCE)
M.Sc. (MACS)

Term-End Practical Examination

00159

June, 2018

MMT-001(P) : PROGRAMMING AND DATA STRUCTURES

Time : 2 Hours *Maximum Marks : 50*

Note : *(i) There are two questions in this paper, totalling 40 marks.*

*(ii) Answer **both** of them.*

(iii) Remaining 10 marks are for viva-voce.

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1. Write a C program to find the approximate value of e, using the following series :

$$1 + 1 + \frac{1}{2!} + \frac{1}{3!} + \frac{1}{4!} + \ldots$$

The number of terms should be entered by the user. *15*

2. Write an interactive C program to implement queue of integers using arrays. The program should contain a function for each of the following tasks :

(i) Creation of an empty queue.

(ii) Insertion of an element to the rear of the queue.

(iii) Deletion of an element from the front of the queue.

(iv) Displaying the contents of the queue.

Use the functions to do the following :

(i) Create an empty queue and add the elements (Enqueue) :
3, 5, 10, 15, 2, 1, 9.

(ii) Delete (Dequeue) three elements from the queue.

(iii) Display the elements in the queue. *25*
