

**M.Tech.****ADVANCED PROGRAMMING LANGUAGES****SUBJECT CODE : CS - 509****Paper ID : [E0689]**

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours****Maximum Marks : 100****Instruction to Candidates:**

- 1) Attempt any **Five** questions.
- 2) All questions carry equal marks.

- Q1)** (a) What do you mean by virtual computers? Discuss different hierarchies of virtual machines?  
(b) Explain the organization of a typical hardware computer?
- Q2)** (a) List and explain specifications of an elementary data types?  
(b) Discuss the implementation of elementary data types?
- Q3)** (a) Differentiate between vectors and arrays with the help of suitable examples?  
(b) What are Exception handlers? How an exception is propagated?
- Q4)** (a) Discuss the main forms of statement-level sequence control with the help of suitable examples.  
(b) What are recursive subprograms and how they are implemented? Explain.
- Q5)** (a) What do you mean by actual and formal parameters? Discuss different methods for transmitting parameters?  
(b) Differentiate between static and dynamic scope?

- Q6)** (a) Discuss different stages in a translation?  
(b) What is implicit synchronization? Explain.

- Q7)** (a) Discuss about different storage-management phases?  
(b) What are storage classes? Explain with examples each storage class.

**Q8)** Write a short note on any two of the followings:

- (a) Stack Based storage management
- (b) Embedded system environment
- (c) Binding

