Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

K 3542

M.C.A. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fourth Semester

MC 1754 — MIDDLE–WARE TECHNOLOGIES

(Regulation 2005)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Enumerate the difference between a Thin Client and a Fat Client? List its advantages.

2. What is Middleware? List its major classifications.

3. Give the software architecture of EJB.

4. What are the various transaction attributes available in EJB?

5. When should you adopt BMP and when you should use CMP?

6. What is the need of Remote and Home interface? Why can't it be in one?

7. What is the role of an interface in CORBA?

8. What are the similarities and differences between RMI and CORBA?

9. What is marshalling by value?

10. What is assembly in .NET framework?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the architecture of MOM. How is it different from other types of middleware?   (10)

      (ii) Develop a simple e-commerce web database model which uses a middleware.   (6)

Or

(b) Give the syntax and semantics of RPC mechanism in detail. State the producer consumer problem. Write the procedure for producer consumer problem and explain how it is supported by RPC in distributed environment. (16)

12. (a) Write the benefits provided by EJB for application developers. With a neat sketch explain the EJB architecture in details including all its modules. (16)

Or

(b) (i) Explain the basic roles in an EJB environment in detail. (10)

(ii) Write the steps to deploy a new EJB module. (6)

13. (a) (i) Explain the concept of session bean and its types in detail. (8)

(ii) Describe the components of entity bean. What Makes Entity Beans Different from Session Beans? Explain (8)

Or

(b) Consider the Inventory application which supports three basic usecases:

(i) Add Items to the Stock

(ii) Receive Items

(iii) Issue Items

The application workflow starts with adding item information to the stock. Then it allows enter goods receiving and issuing information. All those updated information are stored in the inbuilt database. Implement the above application using EJB by considering the necessary issues involved. (16)

14. (a) (i) Explain the architecture of CORBA in detail. (8)

(ii) Write the IDL program for the "hello world" program. (8)

Or

(b) (i) Describe the components involved in CORBA object model in detail. (8)

(ii) Write a CORBA IDL specification, Stack class, Server main program and Client main program for the given description.

"The client sends the server an integer value to be stored in a stack".

(8)

15. (a) Explain the interfaces in COM. Write the steps to create a COM object. (16)

Or

(b) (i) Compare the features of DCOM and CORBA. (8)

   (ii) Explain .NET Framework Remoting Architecture. (8)

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