



**MCA DEGREE EXAMINATIONS: MAY 2015**

(Regulation 2009)

Fourth Semester

**MASTER OF COMPUTER APPLICATIONS**

**MCA517 Middleware Technologies**

**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 2 = 10 Marks)**

1. Name any two types of middle ware.
2. What is RPC?
3. Define file server.
4. Differentiate between Session bean and Entity bean.
5. What are the various transaction attributes available in EJB?
6. Differentiate between BMP and CMP.
7. What is assembly in .NET framework?
8. List the roles of .NET class libraries.
9. What is marshalling and unmarshalling?
10. Define COM.

**PART B (5 x 16 = 80 Marks)**

11. a) (i) What are the different types of servers? How do they communicate with clients? (10)  
What are their merits and demerits?
  - (ii) Explain about MOM. (6)
  - (OR)
  - b) (i) Write notes on peer to peer communication. (8)
  - (ii) What are the main functions of middleware? (8)
12. a) What are the benefits provided by EJB for application developers? With a neat sketch explain the EJB architecture in detail.

**(OR)**

- b) (i) Discuss the roles in EJB. (8)
- (ii) Explain the transaction attributes in detail. (8)

13. a) Discuss the steps involved in building and deploying EJB with bank transaction example.

**(OR)**

- b) (i) Draw the life cycle of entity bean and explain. (10)
- (ii) List the constraints on using session beans. (6)

14. a) Explain the .NET architecture and how does CLR execute the .NET source code? Explain the steps involved in it.

**(OR)**

b) How is remoting achieved using .NET?

15. a) Draw the CORBA networking model diagram and explain how static and dynamic invocation takes place.

**(OR)**

- b) (i) Explain about COM data types (8)
- (ii) Describe the object life cycle in COM. (8)

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