

- (b) (i) Discuss various aspects of middleware in detail. (8)
(ii) Explain the working mechanism of RPC. (8)
12. (a) (i) Describe the architectural components of hybrid database server with a neat diagram. (8)
(ii) Make a comparative study of stored procedures, static and dynamic SQL. (8)

Or

- (b) (i) Discuss the role of TP Monitors in the Client/Server environment. (10)
(ii) What is data warehousing? Briefly explain the elements of a data warehousing system. (6)
13. (a) Explain the need and architectural components of ODBC in detail. (16)

Or

- (b) (i) What are the different types of data sources available in ODBC? (6)
(ii) Explain the process of using ODBC in an application. Write necessary code snippets. (10)
14. (a) (i) Write short notes on resource based programming. (6)
(ii) Give an account on the important visual C++ components used for application development. (10)

Or

- (b) Explain the event handling mechanism used in VC++ with a real time application of your choice. Write necessary code snippets. (16)
15. (a) Compare the main aspects of OLE Client, OLE Server and their communication. (16)

Or

- (b) Describe the concept of MDI in detail. (16)