



**Uva Wellassa University of Sri Lanka**  
**Faculty of Science and Technology**  
**Department of Computer Science and Technology**  
**End Semester Examination September/October 2013**  
**CST 324-2 Middleware Architecture**



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Time Duration : Two Hours (02 hrs.)  
Number of Pages : One (01)  
Answer ALL Questions. Each question will be given 25 mark.

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1.
  - a. Briefly describe the role of middleware in distributed computing.
  - b. List four benefits of distributed computing?
  - c. What are the issues in distributed computing?
  - d. What is legacy software?
  
2.
  - a. Describe the advantages of component-based architecture.
  - b. What is the relationship between middleware and component-based architecture?
  - c. Discuss the impact on communication system of adding several layers of middleware.
  - d. Why do we use proxies in communication systems?
  
3.
  - a. State the needs for Remote Procedure Call (RPC).
  - b. Describe the synchronous and asynchronous models of communication.
  - c. What is parameter marshalling and why is it needed?
  - d. What are the failure detection and recovery mechanisms in RPC applications?
  
4.
  - a. Why is the naming service useful in distributed computing? Give one example of naming service.
  - b. Describe the mechanisms that can be used for a reliable communication.
  - c. What is the difference between RPC and Remote Method Invocation (RMI)?
  - d. Describe Common Object Request Broker Architecture (CORBA). How does CORBA differ from RMI?