

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

B.A./B.Sc. FOURTH SEMESTER EXAMINATION, MAY 2014

SECOND YEAR

COMPUTER SCIENCE (General)

Date : 29/05/2014

Time : 11 am – 1 pm

Paper : IV

Full Marks : 50

[Use a separate Answer Book for each group]

Group – A

1. Answer **any one** question : [1×5]
 - a) Compare and contrast between TCP/IP and OSI model.
 - b) Explain different types of Communication based on direction of data flow.
- Answer **any two** questions : [2×10]
 2. a) Explain in brief Transport Layer.
 - b) Briefly explain a multipoint topology with proper diagram.
 - c) Define Protocol and standard. [4+4+2]
3. a) What is the role of redundant bit in error detection?
- b) Explain how noise and attenuation is measured in data communication.
- c) For the data 10110101 and the divisor x^4+x^3+x , find the value of CRC. [2+3+5]
4. a) Define peer-to-peer process.
- b) Differentiate between TCP and UDP.
- c) Briefly explain Optical-fiber Cable. [2+4+4]
5. a) In CIDR scheme, on IP address of a network is given as : 192.168.1.6/24. Find out the first and last address of the block.
- b) What is DNS?
- c) What is the difference between physical, logical and port address? [5+2+3]

Group – B

6. Answer **any one** question : [1×5]
 - a) Write short note on Code-walkthrough.
 - b) What are the different types of Coupling techniques?
- Answer **any two** questions : [2×10]
 7. a) What are the different phases of maintenance? Describe briefly.
 - b) Explain why waterfall model is monolithic in nature. [6+4]
8. a) What is Alpha and Beta Testing?
- b) What is Black-box testing?
- c) What are the goals for testing? [3+4+3]
9. a) Explain all the phases of SDLC.
- b) What is data dictionary? [7+3]
10. “A bus Company owns a number of buses. Each bus is allocated to a particular route, although same routes may have several buses. Each route passes through a number of towns. One or more drivers are allocated to each stage of a route, which corresponds to a journey through some or all of the towns on a route. Some of the town have a garage. Where buses are kept and each of the buses are identified by the

registration number and can carry different numbers of passengers, since the vehicles vary in size and can be single or double-decked. Each route is identified by a route number and information is available on the average number of passengers carried per day for each route. Drivers have an employee number, name, address and sometimes telephone numbers”

- a) Identify different entries from the above “Bus Company” project.
- b) Draw an E-R Diagram Corresponds to it.

[2+8]

