

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

B.A./B.SC. FOURTH SEMESTER EXAMINATION, MAY-JUNE 2013

SECOND YEAR

Computer Science (General)

Date : 23/05/2013

Time : 11am – 1pm

Paper : IV

Full Marks : 50

(Use separate answer book for each group)

Group – A

1. Answer **any two** questions:

2x2½=5

- What is the difference between simplex and full duplex transmission?
- What is cookies?
- Explain transmission impairments in brief.
- Discuss the components of a networking system.

Answer **any two** from the following questions :

- Discuss star topology in brief. 4
 - Define Wide Area Network and Local Area Network. 3
 - What is bandwidth of a signal? Explain with suitable example. 3
- Let a 11 bit dataword is given as 10101101010. Generate a codeword of 15 bits using hamming code. Use even parity to generate redundant bits. Show how single bit error can be corrected using hamming code. 4
 - Discuss the role of port address in process to process delivery. 3
 - State differences between TCP and UDP. 3
- What are the functionalities of Application Layer in TCP/IP protocol suite? 3
 - State difference between IP address and physical address with suitable example. 3
 - A block of IP address is granted to a small organization. Given one of the address is 162.16.37.39 and the subnet mask is given as 255.255.255.240. Find out the last and first addresses of the block. 4
- What is Internet? 3
 - Briefly discuss three different sections of Domain Name Space. 4
 - Explain URL. 3

Group – B

6. Answer **any one** question:

- “Program-Testing can be used to show the presence of bugs but never to show their absence” – Justify. 3
- What do you mean by ‘Driver’ and ‘Stub’? Give an example. 2
- Compare and differentiate Real Time System and Distributed System. 5

Answer **any two** from the following questions :

- What do you mean by SDLC? Explain the various Phases of SDLC. 1+7
 - Why spiral model is considered to be a stricter model for software development? 2
- What do you mean by Data Flow Diagram? How does Logical DFD differ from Physical DFD? 3+3
 - Compare and contrast: Flow chart & DFD 4

9. a) “Modularity is an important characteristic of a good software design” – Justify. 3
b) Define cohesion and coupling. 4
c) How can functional independence in a software design be achieved? 3
10. a) Briefly discuss issues in software maintenance. 3
b) Define validation in context of software engineering with suitable example. 3
c) What is Testing? Why Test cases are necessary? 2+2

