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MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL

A Constituent Institution of Manipal University

V SEMESTER B.TECH. (COMPUTER SCIENCE & ENGINEERING)

MAKE UP EXAMINATIONS, DEC 2016/JAN 2017

SUBJECT: COMPUTER NETWORKS [CSE 3103]

**REVISED CREDIT SYSTEM
(29/12/2016)**

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitable assumed.

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| 1A. | With a diagram, explain the architecture associated with e-mail transmission assuming a common scenario. | 5M |
| 1B. | Explain the three categories of documents in the WWW. Mention the languages used to create each type of document. | 3M |
| 1C. | Distinguish between flat name space and hierarchical name space. | 2M |
| 2A. | Explain Go-Back-N protocol. With diagrams, explain the role of the send window and the receive window. | 5M |
| 2B. | In TCP, explain silly window syndrome. Explain an algorithm to solve the silly window syndrome created by the sender. | 3M |
| 2C. | What is meant by connectionless service in UDP? Explain its advantage and disadvantage. | 2M |
| 3A. | With a timeline diagram, explain connection termination using three-way handshaking in TCP. | 5M |
| 3B. | With respect to network layer performance, explain transmission delay, propagation delay and processing delay. | 3M |
| 3C. | Distinguish between multicasting and multiple unicasting. What are the disadvantages of multiple unicasting? | 2M |
| 4A. | With an example and a diagram, explain the working of the traceroute program. | 5M |
| 4B. | With respect to network-layer congestion, explain the closed-loop congestion control mechanisms. | 3M |
| 4C. | Explain Reverse Path Forwarding of the Distance Vector Multicast Routing Protocol. | 2M |
| 5A. | With diagrams, explain procedure for pure ALOHA protocol. | 5M |
| 5B. | To communicate with a remote host, a mobile host goes through three phases. Explain each of them along with a timeline diagram. | 3M |
| 5C. | Distinguish between a single-bit error and a burst error. | 2M |