



FIJI NATIONAL UNIVERSITY

COLLEGE OF ENGINEERING, SCIENCE AND TECHNOLOGY
SCHOOL OF ELECTRICAL AND ELECTRONICS ENGINEERING
TRADE DIPLOMA IN ELECTRICAL/ELECTRONIC ENGINEERING
EEE 561 COMPUTER & DATA COMMUNICATION
FINAL EXAMINATION (TRIMESTER 2, 2017)

DATE/TIME/ROOM – Refer to Timetable

INSTRUCTIONS TO CANDIDATES

1. You are allowed 10 minutes extra reading time during which you are NOT to write.
2. Begin each answer on a fresh new page and use both sides of the sheets.
3. Write your identification number on the top of each attached sheet.
4. The paper contains three sections, Sec A, Sec B & Sec C. Attempt any 5 question in Sec B.
5. For all sheets of paper in which rough work has been done, cross it through and you must attach to your answer script.
6. Write clearly the number(s) of the question(s) attempted on the top of each sheet.
7. Good handwriting and way of representation of answers has weight with respect to marks.
8. Draw diagrams if any with pencil only and label it.
9. Always check your work before you leave the exam room.
- 10. The paper is of 100 marks.**

Section A: Multiple Choice Questions (10x1= 20 marks)

1. Router operate at which layer of the OSI model ?
 - a) Transport
 - b) Physical
 - c) Network
 - d) Data Link
2. In the TCP/IP protocol suite, where is CSMA/CD to be found?
 - a) At the Internet layer
 - b) At the data link layer
 - c) At the Transport layer
 - d) None of the above
3. A communication path way which transfers data from one point to another is called
 - a) Link
 - b) Medium
 - c) Node
 - d) Topology
4. Elapsed time between an inquiry and response is called
 - a) Transit time
 - b) Processing time
 - c) Delay time
 - d) Response time
5. Which is the most dominant LAN technology?
 - a) Token Ring
 - b) Ethernet
 - c) ATM
 - d) Frame Relay
6. Protocols are, set of rules to govern
 - a) Communication
 - b) Metropolitan communications
 - c) Maintain standard
 - d) None of the above
7. A circuit switched network is made of set of switches connected by physical
 - a) Link
 - b) Nodes
 - c) Media
 - d) Frames
8. In packet switched network, resources are allocated
 - a) Randomly
 - b) Reserved already
 - c) On Demand
 - d) None of the above
9. In Congestion, CBR stands for
 - a) Control bit rate
 - b) Constant byte rate
 - c) Constant bit rate
 - d) Control byte rate
10. Active hub is actually a
 - a) Multipart network
 - b) Multipart router
 - c) Multipart repeater
 - d) Multipart hub
11. Repeater is a
 - a) Amplifier
 - b) Modifier
 - c) Regenerator
 - d) Generator
12. Header of datagram in IPv4 has
 - a) 0 to 20 bytes
 - b) 20 to 40 bytes
 - c) 20 to 60 bytes
 - d) 20 to 80 bytes
13. Setup, data transfer, and connection teardown are three phases of
 - a) Circuit switching
 - b) Message switching
 - c) Packet switching
 - d) none of the above
14. Which of the following is not a guided transmission line?
 - a) Optical fiber
 - b) Coaxial cable
 - c) Laser beam
 - d) Twisted pair
15. Encryption takes place at which layer?
 - a) Presentation
 - b) Physical
 - c) Data Link
 - d) Session

Section B: Short answer questions: Attempt Any 5 Questions (Each carry 5 marks)

1. Explain the below terms
 - a) Unicast Domain
 - b) Broadcast Domain
2. What do you mean by X.25 standard protocol suite?
3. What do you mean by TCP-3 way handshaking? Explain with the help of a diagram.
4. Distinguish between
 - a) TCP versus UDP protocol
 - b) Router versus Switch
5. What is point to point protocol?
6. What are the various functions of physical layer?
7. What do you understand by DHCP protocol?

Section C: Long Answer questions; Attempt All Questions (Each carry 10 marks)

1. Write briefly on the following topics
 - a) Ethernet
 - b) PSTN
 - c) ARP
2. With respect to TCP protocol, answer below:
 - (a) Name six flags of the TCP protocol.
 - (b) TCP congestion
 - (c) Draw the structure of TCP header showing all the relevant fields.
3. With respect to Circuit switching, answer below:
 - (a) What is circuit switching?
 - (b) Name two different kind of technologies related to circuit switching.
 - (c) Write five properties of Circuit switching.

4. Explain Ethernet frame in detail with the help of a diagram.

5. (a) What are some general principles of network design?
(b) What are some principles of switched LAN design?

6. With respect to traditional LAN architecture answer the questions given below.
 - (a) What is the difference between a physical topology and a logical topology?
 - (b) Describe star, ring & tree topology
 - (c) Which LAN topologies usually use switches?
 - (d) When would you use a star (hub-and-spoke) or a ring topology?

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