Code No.: 5116

**VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD**
**M.E. I Year (ECE) I-Semester (Make Up) Examinations, May - 2015**
(Communication Engineering and Signal Processing)

## Data and Computer Communication Networks

Time: 3 hours Max. Marks: 70

*Note: Answer **ALL** questions in **Part-A** and any **FIVE** questions from **Part-B***



***Part-A (10 X 2=20 Marks)***

1. List out three elements required for layer-specific standards.
2. Calculate the channel capacity for teleprinter channel with a 300 Hz bandwidth and signal-to-noise ratio of 3dB, where the noise is white thermal noise.
3. If the bit string 0111101111101111110 is bit stuffed, what is the output string?
4. Compare the xDSL alternatives.
5. Differentiate Inchannel and out-of band signaling systems.
6. Classify the Routing strategies for packet switching networks.
7. Write the reasons for the use of multiple LANs connected by bridges.
8. Draw the frame format of generic MAC.
9. Draw the Architecture of ATM.
10. Write the TCP features.

***Part – B (5 X 10=50 Marks)***

11. a) Describe the communication tasks. (5)
    b) Determine the propagation delay associated with the following communication channels in a network
        i. A communication through a private telephone of 1km,.
        ii. A connection through a PSTN of 200 kms.
        iii. A connection over a satellite channel of 50,000kms.
    Comment on the results obtained. (5)
12. a) Explain the sliding window Protocol with an example. (6)
    b) What is a broadband modem? Explain the application of ADSL modem with respect to access networks. (4)
13. a) Explain the Circuit switching networks and compare with packet switching networks. (5)
    b) Describe the Common channel signaling. (5)
14. a) Explain the X.25 networks. (4)
    b) Write the Bellman –Ford algorithm with example. (6)
15. a) Explain the LLC protocol. (4)
    b) Describe the IEEE 802.11 architecture. (6)
16. a) Explain the Quality of services in ATM networks. (4)
    b) Draw the SNMP model and explain (SNMPv1). (6)
17. Write short notes on
    i. WDM. (4)
    ii. Control signaling functions. (3)
    iii. Security in the Internet. (3)

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