ctronics / SEM VIII (CBSGS)

Paper / Subject Code: 53007 / Advanced Networking Technologies / NOV-18

(3 Hrs.) **Total Marks: 80**

Please check whether you have got the right question paper

N. B. 1. Question No 1 is compulsory.
2. Solve any three from remaining.

Q1. Solve any four (20M)

a. How network connection is established in Bluetooth?
b. Explain with diagram DWDM.
c. What if VoFR?
d. Draw NNI and UNI header format for ATM?
e. What is proxy firewall?

Q2. a. Compare IEEE 802.15.1, IEEE 802.15.3a & IEEE 802.15.4 Technologies (10M)
b. Write in brief note on Radio Frequency Identification (10M)

Q3. a. Draw and explain SONET frame format. (10M)
b. Explain Frame Relay (FR) frame format in detail. (10M)

Q4. a. Explain B-ISDN reference model for ATM (10M)
b. Compare all ATM Adaptation layers: AAL1, AAL2, AAL3/4 and AAL5. (10M)

Q5. a. Compare Ubiquitous and Hierarchical Access and explain the steps or completing the access network design in detail. (10M)
b. What is SNMP protocol? Explain MIB in detail. (10 M)

Q6. Write a note on: Any Four (20M)
a. Security Threats and Safeguards
b. RMON
c. NAT, SNAT and DNAT
d. Wireless Sensor Networks
e. Bluetooth Protocol Stack

Paper / Subject Code: 53006 / MEMS Technology / Nov. 2018

Q. P. Code : 36790

(3 Hours) (Total Marks: 80)

Please check whether you have the right question paper.

N.B.: 1) Question No.1 is compulsory.
2) Answer any Three out of remaining five questions
3) Draw the neat diagrams wherever necessary.

Q1.

A] What is MEMS? Give two examples of MEMS devices which are characterized by sensors and actuators. **5**

B] What are polymers? Discuss its role in MEMS fabrication. **5**

C] Explain the steps in standard RCA cycle, during wafer cleaning. **5**

D] Explain packaging challenges in MEMS devices. **5**

Q2.

A] What are different silicon compounds. Explain their characteristics and uses in MEMS device fabrication. **10**

B] State various physical vapor deposition techniques. Explain in brief any one technique of PVD in MEMS fabrication. **10**

Q3.

A] Explain the process of photolithography in detail. **10**

B] Distinguish between Wet and Dry etching process with suitable applications. **10**

Q4.

A] Describe the representative process flow for fabricating the cantilever structure. **10**

B] Define reliability in MEMS devices. Explain it using bath-tub-curve. **10**

Q5.

A] Explain in detail, fabrication steps for MEMS microheater. **10**

B] Differentiate between surface and bulk micromachining with suitable examples. **10**

Q6. Write short note on: **20**

A] MEMS sensors in IoT applications.

B] Selection of MEMS material based on applications.

C] Wafer bonding techniques.

D] MEMS device characteristics.
