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**Printed pages: 2** **Sub Code: MTCS043**

**Paper Id: 210209** **Roll No.** | | | | | | | | | | |

**M. TECH.**

**(SEM-II) THEORY EXAMINATION 2017-18**
**NETWORK MANAGEMENT**

***Time: 3 Hours*** ***Total Marks: 70***

**Note:** Attempt all Sections. If you require any missing data; then choose suitably.

**SECTION A**

**1. Attempt *all* questions in brief. 2 x 7 = 14**

a. Define Network Management and System Management.
b. List and briefly define the key areas that comprise network management.
c. What are the differences among SNMPv1, SNMPv2, and SNMPv3?
d. What is the disadvantage of having the network management system operate at the application layer?
e. Describe two different interpretations of the term MIB.
f. Define Active Directory.
g. Define fault as it applies to network management.

**SECTION B**

**2. Attempt any *three* of the following: 7 x 3 = 21**

a. Many network administrators use the ping program as a primary management tool.
   i. Why would you ping a network device?
   ii. Why would you ping yourself?
b. Because SNMP uses two different port numbers (UDP ports 161 and 162), a single system can easily run both a manager and an agent. What would happen if the same port number were used for both?
c. Write short note on the following
   a. FTP
   b. ROUTER
   c. TFTP
   d. TELNET
   e. RDP
d. Explain SNMP architecture and operations in network management.
e. Explain the MIB view and access of an object in computer management.

**SECTION C**

**3. Attempt any *one* part of the following: 7 x 1 = 7**

(a) Explain the TTS tool with logical architecture in computer network management.
(b) Explain the Net flow and Netflix model in detail.

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**4. Attempt any *one* part of the following: 7 x 1 = 7**

(a) The original (version 1) specification of SNMP has the following definition of a new type: Gauge: = [APPLICATION 2] IMPLICIT INTEGER (0...4294967295) The standard includes the following explanation of the semantics of this type: This application-wide type represents a non- negative integer, which may increase or decrease, but which latches at a maximum value. This standard specifies a maximum value of 2321 (4294967295 decimal) for gauges. Unfortunately, the word latch is not defined, and this has resulted in two different interpretations. The SNMPv2 standard cleared up the ambiguity with the following definition: The value of a Gauge has its maximum value whenever the information being modeled is greater than or equal to that maximum value; if the information being modeled subsequently decreases below the maximum value, the Gauge also decreases.

i. What is the alternative interpretation?
ii. Discuss the pros and cons of the two interpretations.

(b) Explain the dual stack IP network management with suitable example.

**5. Attempt any *one* part of the following: 7 x 1 = 7**

(a) Explain SNMP over IPv6.

(b) Explain the Domain Controller in Network Infrastructure. Also define the AD Zones.

**6. Attempt any *one* part of the following: 7 x 1 = 7**

(a) What is the role of DNS in network management? Explain the types of DNS server and queries.

(b) What is the role of Instrumentation Mechanism in network management?

**7. Attempt any *one* part of the following: 7 x 1 = 7**

(a) Write down the Port Number of Following:

i. DHCP
ii. FTP
iii. TELNET
iv. DNS
v. LDAP

(b) What is Policy based network management. Explain the need for OOA, design, and modeling in PBNM system.

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