

**M.Tech. IN ADVANCED INFORMATION
TECHNOLOGY – NETWORKING AND
TELECOMMUNICATION (MTECHTC)**

Term-End Examination

December, 2014

**MINI-023 : NETWORK MANAGEMENT AND
SECURITY**

Time : 3 hours

Maximum Marks : 100

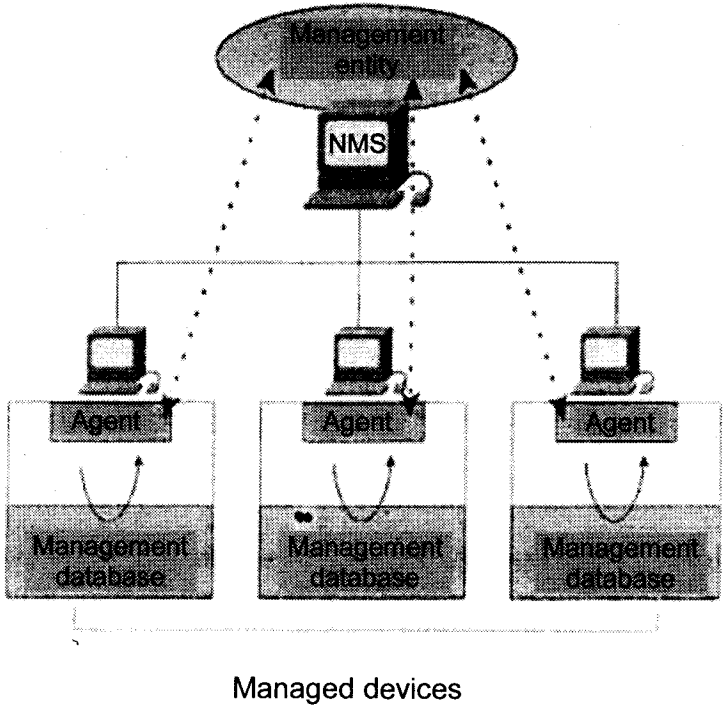
Note :

- (i) *Section I is **compulsory**.*
 - (ii) *In Section II, solve any **five** questions.*
 - (iii) *Assume suitable data wherever required.*
 - (iv) *Draw suitable sketches wherever required.*
 - (v) *Use of calculator is allowed.*
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SECTION I

1. (a) Explain Network Management architecture from the diagram given below :

15



- (b) Explain in brief Network and Application Layer firewall with a neat labelled diagram.

15

SECTION II

Attempt any **five** questions from this section.

2. Write a short note on Intrusion Detection System with its architecture. 14

3. Explain the architecture (Client-Server) of network management with diagram. 14

4. Explain the following IP tables rules : 14

```
echo 1 > /proc/sys/net/ipv4/ip_forward

iptables -A POSTROUTING -t nat -o eth0 -s 192.168.1.0/24
-d 0/0 \ -j MASQUERADE

iptables -A FORWARD -t filter -o eth0 -m state \ --state
NEW,ESTABLISHED,RELATED -j ACCEPT

iptables -A FORWARD -t filter -i eth0 -m state \
--state ESTABLISHED,RELATED -j ACCEPT

iptables -A FORWARD -p tcp -i eth0 -o eth1
-d 192.168.1.200 \ --dport 8080 --sport 1024:65535
-m state --state NEW -j ACCEPT

iptables -A FORWARD -t filter -o eth0 -m state \
--state NEW,ESTABLISHED,RELATED -j ACCEPT

iptables -A FORWARD -t filter -i eth0 -m state \
--state ESTABLISHED,RELATED -j ACCEPT
```

5. Explain in brief SNMP GET/SET with the help of a neat labelled diagram. Also explain the following frame format. 14

SNMP message

Version	Community	SNMP PDU
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Get/GetNext/Set PDU

PDU type	Request ID	0	0	Variable bindings
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Response PDU

PDU type	Request ID	Error status	Error index	Variable bindings
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Trap PDU

PDU type	enterprise	Agent addr	Generic trap	Specific trap	Time stamp	Variable bindings
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Variable bindings

Name1	Value1	Name2	Value2	...	Namen	Valuen
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6. Explain Abstract Syntax Notation One. Write a short note on SNMP Version-III. 14

7. Explain how Internet Surf Control can be achieved with the help of Web Caching proxy server. 14