Name : ....

Roll No. : ....

Invigilator's Signature : ....

CS/B.TECH(ECE)/SEP.SUPPLE/SEM-7/EC-704F/2012

2012

TELECOMMUNICATION NETWORK MANAGEMENT

Time Allotted : 3 Hours   *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words

as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

                                              10 × 1 = 10

   i)   TMN management service provides support in which of
        the following aspects ?

            I.   Operations

            II. Maintenance

            III. Administration.

        a) I only   b) I and II

        c) II and III   d) I and III.

SS-320   [Turn over

ii) The management functions have been classified according to their usage. Which of the following is NOT included in the management functional areas ?

     I. Configuration management

     II. Accounting management

     III. Performance management

     IV. Fault (maintenance) management.

a) I and II   b) I and III

c) II, III and IV   d) I only

e) None of these.

iii) How is TMN defined in terms of managing of a telecommunication network ?

     I. It provides effective management of a telecommunication network so that optimised revenue is obtained.

     II. It captures relevant information on the management of a certain telecommunication area.

     III. It provides management functions and communication both between the OSs.

a) I only   b) II only

c) I and III   d) II and III

e) All of these.

iv) What does flow control determine ?

a) When a device can transmit

b) Whether a device is connection oriented or connectionless

c) Both (a) and (b)

d) Neither (a) nor (b).

v) Which of the following is the simplest error-detection method ?

    a) Parity

    b) Longitudinal redundancy checking

    c) Checksum checking

    d) Cyclic redundancy checking.

vi) Telnet, FTP, SMTP, DNS, HTTP are examples of protocols that are used in

    a) application layer of OSI reference model

    b) presentation layer of OSI reference model

    c) session layer of OSI reference model

    d) data link layer of OSI reference model.

vii) The frame alignment word is a sequence of bits that allows the start of each STM-1 frame to be clearly identified within SDH network. It is contained within

    a) Revenerator section overhead

    b) Multiplex section overhead

    c) Synchronous section overhead

    d) Sequence section overhead.

viii) In Telecommunication Management Network (TMN) system, the role of the manager is to issue commands and requests to the agent. These commands and requests are known as

a) notifications   b) feedbacks

c) operations   d) acknowledgements.

ix) .... is one of the Telecommunication Management Network (TMN) functional blocks that will convert TMN information into a format that can be easily understood by the user.
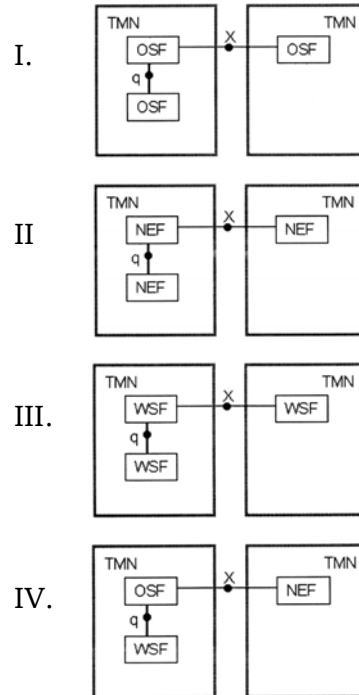
a) Operations system function block

b) Workstation function block

c) Reference function block

d) Network element function block.

x) .... is the standard defined by the American National Standard Authority, ANSI T1 for synchronous operation used in North America.

a) DXC   b) STM-1

c) ADM   d) SONET.

xi) What is the correct picture(s) illustrating the aspects of TMN Functional Architecture ?

I.

TMN	X	TMN
OSF	•	OSF
q		
OSF		

II

TMN	X	TMN
NEF	•	NEF
q		
NEF		

III.

TMN	X	TMN
WSF	•	WSF
q		
WSF		

IV.

TMN	X	TMN
OSF	•	NEF
q		
WSF		

a) I and II   b) II and IV

c) I only   d) All of these

e) None of these.

xii) The Internet offers which of the following advantages ?

a) It offers a relatively low cost method of wide-area networking for the smaller company

b) It enables companies to reach new markets

c) It is relatively easy to create a simple website

d) The use of web browsers gives a reasonably consistent, easy to use interface

e) All of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. Define communication protocols and standards.

3. How does the interest traffic pass ? Describe in short with the help of RMON.

4. How do the different implementation issues play important role in TMN ?

5. Define (i) ASN1, (ii) GDMO Object Oriented Design.

6. Explain in detail about organization model.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.   3 × 15 = 45

7. a) Discuss about goals and functions of network management system.

   b) Explain about the future of network management.

   c) Define Telecommunication network management system.   7 + 6 + 2

8. a) Explain in detail about SNMPv2 management information base and its protocol.

   b) With proper diagram, discuss briefly SNMP communication protocol.

   c) What are network management tools ?   8 + 3 + 4

9. a) Explain about NMS with web interface and web based management.

   b) Explain about management of a storage area network.

   $8 + 7$

10. a) What is RMON SMI ?

    b) State the difference between RMON SMI and MIB.

    c) Discuss about Enterprise management solution.

    $3 + 6 + 6$

11. a) Discuss about management of a storage area network.

    b) Give an idea about integrated view of TMN.

    c) What improvement do you observe in SNMPv2 over SNMPv1 ? $5 + 5 + 5$

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