

P1534

[3764] - 438

B.E. (IT)

SYSTEM OPERATIONS & MAINTENANCE

(2003 Course) (414448)

Time : 3 Hours]

[Max. Marks : 100

Instructions to candidates:

- 1) Answer 3 questions from Section I and 3 questions from Section II.
- 2) Answers to the two sections should be written in separate books.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Figures to the right indicate full marks.
- 5) Your answers will be valued as a whole.
- 6) Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.
- 7) Assume suitable data, if necessary.

SECTION - I

- Q1) a) Explain the benefits when advanced support systems are deployed by the Telecom service provider. [9]
- b) With a short description explain the support processes related to order processing and provisioning process. [9]

OR

- Q2) a) With a short description explain the network operational management process. [9]
- b) Explain service delivery cycle with neat diagram. [9]

- Q3) a) Explain. [8]
- i) Permanent virtual circuits.
  - ii) Switched virtual circuits.
  - iii) Semipermanent virtual circuits.
- b) Explain the concept 'Local number portability' [8]

OR

- Q4)** (a) Explain with neat diagram topology of SS7 network. [8]  
 (b) List and explain QOS factors of IP based services and products. [8]
- Q5)** a) Explain in detail web switching. [8]  
 b) With a neat diagram explain directory enabled networking. [8]
- OR
- Q6)** a) Explain in detail policy based networking. [8]  
 b) With a neat diagram explain MPLS. [8]

## **SECTION - II**

- Q7)** a) Compare and contrast X.25 usage. [8]  
 b) Explain ISDN. [8]
- OR
- Q8)** a) Explain the significance of frame Relay services as one of the alternatives of fast packet switching. [8]  
 b) Explain ATM. [8]
- Q9)** a) With a neat diagram discuss TMN physical architecture and interfaces. [8]  
 b) List the goals of telecommunication service providers with middleware. [8]
- OR
- Q10)** a) Draw a neat diagram of structure of SNMP based management services and list the strengths and weakness of SNP. [8]  
 b) Write a note on common Information model. [8]
- Q11)** a) Explain Internet billing. [9]  
 b) Discuss the significance of periodic security audit for a telecommunication service provider. [9]
- OR
- Q12)** a) Write a job profile of typical network operation manager. [9]  
 b) What is SLA? List some service dependent and service independent metrices for the same. [9]

