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**Question Paper Code: 42222**

M.E. DEGREE EXAMINATION, MAY 2015.

Second Semester

Communication Systems

14PCM202 – TELECOMMUNICATION SWITCHING AND MANAGEMENT

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (5 x 1 = 5 Marks)

1. Cost Capacity Index (CCI) inversely proportional to
  - (a) Switching capacity
  - (b) Cost per subscriber line
  - (c) Theoretical maximum load
  - (d) Subscriber line
2. Z.100 refers
  - (a) Specification description language
  - (b) CCITT high level language
  - (c) Man-Machine language
  - (d) none of the above
3.  $R_{dc}$  for copper conductors
  - (a)  $22.96/d^2$  ohm<sup>2</sup>/km
  - (b)  $21.96 d^2$  ohm<sup>2</sup>/km
  - (c)  $22.96d^2$  /kohm<sup>2</sup>/m
  - (d)  $21.69 d^2$  ohm<sup>2</sup>/km
4. 1.500 series CCITT ISDN Recommendation
  - (a) Maintenance principles
  - (b) Inter network interference
  - (c) Service capabilities
  - (d) all the above
5. 1 Erlang
  - (a) 60 minutes
  - (b) 120 minutes
  - (c) 180 minutes
  - (d) both (a) and (b)

PART - B (5 x 3 = 15 Marks)

6. Short comments on principles of cross bar switching.
7. Distinguish single stage and multistage networks.

8. Compare satellite and terrestrial communications.
9. Write down explanation on interworking.
10. Briefly about network traffic load and parameters.

PART - C (5 x 16 = 80 Marks)

11. (a) Explain in detail about the types of stronger switching components with schematic representation. (16)

Or

- (b) Discuss in touch tone dial telephone with neat diagram. (16)

12. (a) Explain the block diagram of centralized stored program control with three modes of operation. (16)

Or

- (b) Elucidate about time multiplexed time switching and space switching (16)

13. (a) Explicate the common channel signaling with message formats and architecture of SS7. (16)

Or

- (b) Clarify in details about
- (i) Numbering plan (8)
  - (ii) Charging plan (8)

14. (a) Explain concerning of four services that provided by ISDN for the existing voice and data services. (16)

Or

- (b) Give justification about broad band ISDN with voice data integration. (16)

15. (a) Write short notes on
- (i) Grade of services (8)
  - (ii) Blocking probability (8)

Or

- (b) Explain Telecommunication Management Network
- (i) Functional model (8)
  - (ii) Logical model (8)