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53 (CS 811) ATMN

2014

## ATM NETWORKS

Paper : CS 811

Full Marks : 100

Time : Three hours

*The figures in the margin indicate full marks for the questions.*

*Answer any five questions out of seven.*

1. (a) Explain Time Division Multiplexing (TDM) with diagram. 6
- (b) Discuss the mechanism of Routing in the packet based network (with diagram showing routing table). 6
- (c) Discuss the Establishment of virtual circuits in ATM Network. 8
2. (a) What are transfer modes ? 4
- (b) Compare between cell Switching and Routing. 6

Contd.

- (c) What do you understand by synchronous and asynchronous modes of data transfer? 6
- (d) Explain decoupled multiplexing of ATM cells. 4
3. (a) What is ISDN? 4
- (b) Explain the protocol layering of ISDN. 6
- (c) What are the services provided by ISDN? 4
- (d) Compare the similarities and differences between ISDN and ATM Network. 6
4. (a) What do you mean by virtual channels and virtual paths? 4
- (b) Explain how the VPI/VCI translation is done in ATM Network. 6
- (c) Consider about Virtual Paths, virtual channels and transmission paths, discuss the various switching that can be done (i.e. VP Switching/Cross-connect and VC switching/Cross-connect) with diagram. 10
5. (a) Explain the ATM reference model. 8

- (b) Compare between ATM-RM and OSI-RM. 4
- (c) Explain the core aspects of ATM. 8
6. (a) What are the different categories of ATM physical layer? 2
- (b) Mention all the functions of each sublayer of ATM physical layer. 6
- (c) Explain *any two* functions of the sublayer of ATM physical layer. (briefly) 4
- (d) Explain the ATM Network Architecture and Interfaces and explain how we can be able to get internet with ATM. 8
7. (a) Explain ATM cell header format at UNI and as well as in NNI. 10
- (b) Briefly explain the ATM layer functions. 8
- (c) What is the size of an ATM cell and what is the name of interface that is used in a network between cell based network and packet based network? 2
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