

Roll No.

23545

**M.Tech. 1st Sem. (Cyber Forensics and
Information Security)**

Examination – December, 2013

ADVANCED COMPUTER NETWORKS

Paper : MTCF - 105

Time : Three hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question no. 1 is *compulsory*. Students have to attempt *five* questions in total selecting *one* question from each section.

1. (a) On which two layers of OSI reference model error control and flow control is performed. What is the need for performing these functions twice ?

$8 \times 2.5 = 20$

- (b) Differentiate between a active hub and a switch.
(c) Differentiate between logical and physical addressing.
(d) Differentiate between connection oriented and connectionless services with examples. Name the

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protocols at Transport layer which implements these services.

- (e) How wireless ad-hoc networks are different from other wireless networks.
- (f) Mention some advantages of using optical fibre networks.
- (g) Briefly explain the mechanism for wavelength allocation in optical networks.
- (h) Explain some applications of wireless sensor networks.

SECTION - A

- 2. (a) Compare TCP/ IP model with OSI reference model. 10
- (b) Explain ATM architecture. 10
- 3. (a) Explain various congestion control techniques. 10
- (b) Explain distance vector routing. 10

SECTION - B

- 4. (a) Describe TCP 10
- (b) Describe UDP 10
- 5. (a) Describe addressing in IPV4. 10
- (b) Explain working of HTTP. 10

SECTION – C

6. Describe the following : 20
- (a) wireless mesh network
 - (b) IEEE 802.11 standard
7. Describe the following: 20
- (a) Optical routers
 - (b) Mobile IP

SECTION – D

8. (a) Explain any *one* routing protocol in wireless sensor networks. 10
- (b) Explain working of AODV routing protocol in Ad-hoc networks. 10
9. Write notes on : 20
- (a) IP telephony
 - (b) VPN