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

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