

**M. SC. (I.T.) SEM. – I (C.B.C.S. COURSE) (2015 COURSE) :
SUMMER - 2018**

SUBJECT: SYSTEM AND NETWORKING CONCEPTS

Day: Friday
Date: 25/05/2018

S-2018-1024

Time: 02.30 pm to 05.30 pm
Max. Marks: 60

N.B:

- 1) Attempt **ANY SIX** questions.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat diagrams **WHEREVER** necessary.
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- Q.1** Describe the functions of seven layers of the OSI model. Explain the importance of the OSI model in today's communication standards. **(10)**
- Q.2** Explain the working of CSMA/CD protocol, as implemented in IEEE 802.3 (Ethernet) standard. Explain why CSMA/CD cannot be used in a wireless network. **(10)**
- Q.3** Explain the concept of Virtual Private Network, with illustrative diagrams. Describe the various methods of implementing VPN. **(10)**
- Q.4** Explain in detail, how process-to-process delivery is ensured in a TCP/IP network, with illustrative diagram. **(10)**
- Q.5** a) Describe the functions and working of a device driver in an OS. Also describe the primary types of device drivers in a Linux OS. **(05)**
b) Differentiate between a process and a thread. Explain thread priority management in an OS. **(05)**
- Q.6** Describe the various IPC mechanisms generally available in an operating system. List out and justify which IPC mechanism is the fastest and the simplest. **(10)**
- Q.7** Explain the various file systems supported by an operating system. Describe the Root File system structure for a Linux OS. **(10)**
- Q.8** Compare the features of the following categories of operating systems: - **(10)**
i) General Purpose OS.
ii) Real Time OS
Explain with appropriate examples.

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