

**DIPLOMA - VIEP - ELECTRONICS AND
COMMUNICATION ENGINEERING (DECVI)
Term-End Examination**

00014

June, 2017

BIEL-033 : BASIC TELEMATICS

Time : 2 hours

Maximum Marks : 70

Note : Attempt any **five** questions. Question no. 1 is **compulsory**. All questions carry equal marks. Use of scientific calculator is permitted.

1. Choose the correct answer.

7×2=14

- (a) The bandwidth requirement of a telephone channel is
- (i) 3 kHz
 - (ii) 15 kHz
 - (iii) 5 kHz
 - (iv) 25 kHz
- (b) Broadband ISDN handles a data rate of about
- (i) 64 kbps
 - (ii) 100 mbps
 - (iii) 5.4 mbps
 - (iv) 2.048 mbps

- (c) Telex is a
- (i) Telephone service between various subscribers
 - (ii) Teleprinter service between various subscribers
 - (iii) Television service between various subscribers
 - (iv) Telegraph service between various subscribers
- (d) Telephone traffic is measured in
- (i) Seconds
 - (ii) Hours
 - (iii) Erlangs
 - (iv) Pulse per minute
- (e) In a DTMF phone, digits are represented by
- (i) Orthogonal frequencies
 - (ii) Orthogonal phases
 - (iii) Orthogonal codes
 - (iv) Orthogonal pulses
- (f) Engaged tone is generated in the
- (i) Telephone instrument of calling subscriber
 - (ii) Telephone instrument of called subscriber
 - (iii) Exchange
 - (iv) Repeater

- (g) MAC stands for
- (i) Multimedia Access Control
 - (ii) Media Access Control
 - (iii) Mobile Access Control
 - (iv) Master Access Point Control
2. (a) Draw the block diagram of cable MODEM and explain the function of each block. 7
- (b) List the advantages of IP phone over voice phone. 7
3. (a) Draw and explain the wiring diagram of EPABX. 7
- (b) List the advantages of band separation in DTMF signalling. 7
4. (a) Define switched analog services with a suitable diagram and list the services provided. 7
- (b) Compare centralised SPC and distributed SPC. Discuss any four of them. 7
5. With neat diagrams, explain the configurations of step-by-step switching system. 14

6. (a) List the services provided by ISDN and explain any two. 7

(b) Explain in detail the different tones used in telephone exchanges. 7

7. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$

(a) ATM

(b) Cordless Telephone System

(c) Telephone Numbering Plan

(d) FAX Machine

(e) Wireless Telephone
