

**DIPLOMA - VIEP - ELECTRONICS AND  
COMMUNICATION ENGINEERING (DECVI)**

**Term-End Examination**

00725

**June, 2014**

**BIEL-033 : BASICS TELEMATICS**

*Time : 2 hours*

*Maximum Marks : 70*

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*Note : Attempt any **five** questions in all. Question no. 1 is compulsory. All questions carry equal marks.*

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1. Answer the following multiple choice objective questions.  $7 \times 2 = 14$
- (a) In a circuit switching, the period during which no new calls can be accepted is known as \_\_\_\_\_ .
- (i) Congestion
  - (ii) Delay
  - (iii) Idle period
  - (iv) None of these
- (b) In telephone exchanges, digital subscribers are connected through
- (i) Subscriber line interface circuit
  - (ii) Digital subscriber line interface circuit
  - (iii) Switching fabric
  - (iv) None of these

- (c) Direct inward dialing is used as a feature in
  - (i) PSTN
  - (ii) PBX
  - (iii) EPABX
  - (iv) VPN
  
- (d) Time Synchronization is necessary in
  - (i) FDM
  - (ii) TDM
  - (iii) WDM
  - (iv) Quadrature multiplexing
  
- (e) The digital signals need to be converted to audio tones for transmission through telephone lines because the bandwidth of these lines are
  - (i) Low
  - (ii) High
  - (iii) Unlimited
  - (iv) None of these
  
- (f) Dial Tone has a frequency of
  - (i) 350 Hz only
  - (ii) 350 Hz and 440 Hz
  - (iii) 440 Hz only
  - (iv) 700 Hz only

- (g) MF tones are used
  - (i) in DTMF handset
  - (ii) to transfer digits and control signals between switching machines
  - (iii) in subscriber loop
  - (iv) None of these
  
- (a) How are switching systems classified ? In what way is stored program control superior to hard-wired control ? 10
  
- (b) What is the significance of side tones in a telephone conversation ? 4
  
- 3. (a) What is the difference between 'DTMF' and pulse dialling ? Which one is preferred and why ? 7
  
- (b) Draw and explain the block diagram of a Telephone receiver system. 7
  
- 4. What are the basic signals that are needed between exchanges to set up a call ? Explain their importance. 14
  
- 5. What is Store Program Control ? Give the organization of Centralized Store Program Control. Discuss the advantages of Store Program Control automation in telephone switching. 14
  
- 6. (a) What is multiframing technique ? Explain 30 channel PCM system. 7
  
- (b) What neat sketch explain ISDN user network interface configuration. 7

7. (a) What are modems ? Explain the different types of modems.
- (b) Describe the operation of Automated Teller Machines (ATM).
8. Write short notes on any *four* of the following :

$$4 \times 3 \frac{1}{2} =$$

- (a) EPABX
- (b) Cordless Telephone System
- (c) Blocking and Non Blocking Networks
- (d) ADSL
- (e) Video conferencing
- (f) Voice over IP phone
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