No. of Printed Pages : **4**

BIEE-034

DIPLOMA IN VIEP-ELECTRICAL ENGINEERING (DELVI)

Term-End Examination

June, 2013

01451

BIEE-034 : ELECTRICAL POWER TRANSMISSION AND DISTRIBUTION

Time : 2 hours *Maximum Marks : 70*

Note : *Q. No.* ***1*** *is* ***compulsory.*** *Attempt* ***any four*** *questions out of Q. No.* **2** *to q.No* **8.** *All questions* ***carry equal*** *marks.*

1. Choose the correct answer from the given alternatives : **2x7=14**

(a) The advantage of neutral earthing is :

(i) safety of the personnel

(ii) reduction of earth fault current

(iii) elimination of arcing grounds

(iv) none of these

(b) The sag of a transmission line conductor in summer is :

(i) less than in winter

(ii) more than in winter

(iii) same as in winter

(iv) none of the above

(c) A transmission line 120 km length is operating at 50 Hz, it can be classified as :

(i) short length line

(ii) medium length line

(iii) long length line

(iv) none of these

(d) Which distribution system is more reliable ?

(i) ring main system

(ii) Tree system

(iii) Radial system

(iv) All are equally reliable

(e) Which of the following equipments is not installed in a substation ?

(i) excitors

(ii) Shunt reactors

(iii) Voltage transformer

(iv) series capacitor

(f) According to India electricity Act, the permissible voltage drop at the consumer Torminals :

(i) 10%

(ii) 12%

(iii) 3%

(iv) 6%

(g) Back to back HVDC is used to :

(i) increase the transmission capability

(ii) decrease lines losses.

(iii) provide stable connection

(iv) reduce voltage drop.

2. (a) What is a stringing chart ? How can it be prepared ? What is its use ? 7

(b) What are the factors on which conductor spacing and ground clearance depend ? 7

3. (a) Explain 3-phase 4-wire system of distribution of electrical power. 7

(b) Show that the insulation resistance of a cable is inversely proportional to its length. 7

4. What are different types of elective substations you are familiar with ? Discuss an out door type substation. 14

5. Explain a method for location and testing faults in underground cables. 14

6. (a) What do you understand by power factor ? What are the causes of a poor power factor ? 7

(b) Discuss the economics of power factor improvement. 7

7. (a) What are the various types tarriffs used by electric supply companies ? 7

(b) Explain any one method of earthing. 7

8. Write short notes on ***any four*** of the following : **3.5x4=14**

(a) purpose of earthing

(b) flat rate tarriff

(c) power factor improvement

(d) maintenance of lines

(e) pole mounted substation

(f) laying of cables