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BIEEE-013

B.Tech. – VIEP – ELECTRICAL ENGINEERING (BTELVI)

Term-End Examination

December, 2015

BIEEE-013 : POWER QUALITY ISSUES AND REMEDIAL MEASURES

Time : 3 hours   *Maximum Marks : 70*

*Note : Attempt any **five** questions. Each question carries equal marks.*

1. (a)   What is the need to evaluate power quality ? Explain in detail.   7

    (b)   What are the power quality standards ? Explain in detail.   7

2. (a)   What will be the effect of voltage sag on drives and peripherals ?   7

    (b)   How is voltage sag monitored ? What are the measures to overcome it ?   7

3. (a)   Explain the drawback of Fluorescent lamps. What is the solution to overcome its disadvantages ?   7

    (b)   Name a few arcing and saturable devices. How do they affect the power quality ?   7

4. (a) What is the difference between active power and reactive power ? 7

   (b) How are power factor correction circuits able to improve the power quality ? Explain in detail. 7

5. (a) Explain the working of a single-phase active power factor connected circuit. 7

   (b) Explain the working of SVC by using a suitable block diagram. 7

6. (a) What are the causes of harmonics in ac power system ? Explain in detail. 7

   (b) What are the effects of harmonics on power quality ? Explain in detail. 7

7. (a) What are the various methods of grounding ? Explain its effect, if system is not grounded. 7

   (b) What is the difference between UPS and inverter ? How do they affect the power quality ? 7

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