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Total Number of Pages : 01

B.Tech
PEEL5403

8th Semester Back Examination 2018-19

ELECTRICAL POWER QUALITY

BRANCH : EEE, ELECTRICAL

Time : 3 Hours

Max Marks : 70

Q.CODE : F097

Answer Question No.1 which is compulsory and any FIVE from the rest.
The figures in the right hand margin indicate marks.

- Q1 Answer the following questions : (2 x 10)**
- a) Power quality issue is a consumer-driven issue. Justify your answer.
 - b) Mention the categories of the transients.
 - c) 'Momentary over voltage' belongs to which class of power quality issue and what is the appropriate term used.
 - d) Draw the voltage wave form for 3 phase voltage imbalance.
 - e) Distinguish between notch and harmonics
 - f) Explain the term flicker in power quality.
 - g) Define the term ground loop.
 - h) Mention at least two ambiguous term in the era of electrical power quality.
 - i) Explain the term CVT.
 - j) By Modified conductor spacing, which type of problems can be addressed.
- Q2 a) Briefly discuss about the sag performance evaluation indices. (5)**
b) Mention the standards associated with the voltage sag. (5)
- Q3 a) Mention the most common events leading to ferroresonance. (5)**
b) Explain about the principles of overvoltage protection. (5)
- Q4 a) Distinguish between surge arrestors and surge suppressors. (5)**
b) Mention the various lightning protection of over voltage lines? Explain each of them. (5)
- Q5 a) Mention various causes of harmonics in distribution system. (5)**
b) Distinguish between total harmonic distortion and total demand distortion. (5)
- Q6 Explain in brief, how to locate harmonic sources and explain about methods to filter the harmonics in the system. (10)**
- Q7 Mention different voltage sag mitigation techniques? Explain in detail (10)**
- Q8 Write short answer on any TWO : (5 x 2)**
- a) Standards on Harmonics
 - b) Current-limiting fuses
 - c) Flywheel with UPS system