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**Question Paper Code:U1902**

M.E. DEGREE EXAMINATION, APRIL 2024

Second Semester

Power Electronics and Drives

21PPE502– ELECTRIC POWER QUALITY

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Summarize the power quality problems and their causes & issues. CO1- U (20)  
Or  
(b) Classify and explain short duration variations, long duration variations and Power System frequency Variations. CO1- U (20)
2. (a) Briefly explain about the single phase linear and nonlinear loads CO2- U (20)  
Or  
(b) Explain about the three phase three wire system for ensuring Power Quality. CO2- U (20)
3. (a) Analyze the unbalanced three phase system for ensuring Power Quality. CO3- Ana (20)  
Or  
(b) (i) Analyze the concept current balancing. CO3- Ana (10)  
(ii) Analyze the real and reactive power in terms of instantaneous voltage and current. CO3- Ana (10)
4. (a) Describe any one of the instantaneous method for generating reference currents for shunt compensator. CO4- U (20)  
Or  
(b) Describe the function of DSTATCOM in harmonics reduction. CO4- U (20)
5. (a) Analyzing the power quality using PSCAD / EMTP. CO5- Ana (20)  
Or  
(b) Illustrate the rectifier supported DVR with suitable example. CO5- Ana (20)

