

Hall Ticket Number :

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**R-11 / R-13**

**Code: 1G254**

III B.Tech. I Semester Supplementary Examinations November 2019

**Electrical and Electronics Measurements**

( Electrical and Electronics Engineering )

Max. Marks: 70

Time: 3 Hours

Answer any **five** questions

All Questions carry equal marks (**14 Marks** each)

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1. a) Classify the different types of torques required for satisfactory operation of an instrument and explain in brief 10M  
b) Explain the different methods of measurements with examples. 4M
2. a) Describe the constructional details and operation of a dynamometer type power factor meter along with a neat labeled sketch 10M  
b) Distinguish between the dynamometer type power factor meter and moving iron type power factor meter 4M
3. Describe the construction and working of single phase Dynamo meter type wattmeter along with a neat sketch. Also derive the expression for torque and list out the advantages and disadvantages. Give a comment on the scale 14M
4. a) Draw the circuit diagram of a basic slide wire potentiometer and explain its working 10M  
b) List out the applications of DC Potentiometers 4M
5. a) Draw the diagram of Wheat stone bridge and derive the expression for bridge balance condition 8M  
b) Describe the different sources and different detectors used in bridges along with its range 6M
6. Describe the method of determination of B-H curve of a magnetic material using  
(i) Method of reversal and (ii) Step by Step method with the help of suitable diagrams 14M
7. a) Explain the functioning of time base generator in CRO 7M  
b) Discuss the importance of deflection plates in CRO 7M
8. a) List out the salient features of Digital Meters 7M  
b) Draw and explain the circuit of Digital multimeter. 7M

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<b>R-11 / R-13</b>
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**Code: 1G252**

III B.Tech. I Semester Supplementary Examinations November 2019

**Transmission of Electric Power**

( Electrical and Electronics Engineering )

Max. Marks: 70

Time: 3 Hours

Answer any **five** questions  
All Questions carry equal marks (**14 Marks** each)

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- 1. Describe the following concepts in detail with an illustration 3M
  - a) Geometric Mean Distance 2M
  - b) Geometric Mean Radius 6M
  - c) Transposition 3M
  - d) Bundling of Conductors
  
- 2. Explain with an illustration there will be Ferranti Effect for an unloaded transmission line and also draw the corresponding phasor diagram. 14M
  
- 3. Explain in detail about the short and medium lines 14M
  
- 4. Obtain the equivalent T and  $\pi$  representations of long transmission line using mathematical analysis. 14M
  
- 5. Prove that the sum of incident wave and reflected wave is equal to transmitted wave for voltages and currents. 14M
  
- 6. a) Develop Generalized expression to find the voltage across one disc, if the voltage across another disc is known in suspension type insulators. 7M  
b) Each conductor of a 33KV, 3- system is suspended by a string of three similar insulators. The ratio of shunt capacitance to self-capacitance is 0.1. Determine the voltage distribution across the string and percentage String efficiency. 7M
  
- 7. a) Explain the phenomenon of corona in EHV lines? 6M  
b) What are the factors affecting corona and explain in detail. 8M
  
- 8. What is the purpose of Grading in Underground Cables? What are the different Grading Techniques? Explain in detail? 14M

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