



GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

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Name of Examination : **Winter 2020** - (Preview)

Course Code & Course Name : **EE203U - Electrical Measurement and Instrumentation**

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Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

- 1) Solve any three sub-questions
 - a) Explain working of PMMC instrument with neat diagram. [5]
 - b) Draw a neat diagram and explain working of attraction type moving iron instruments. [5]
 - c) Explain the advantages of Electronic voltmeters over conventional type voltmeters. [5]
 - d) Describe the basic circuit of a Digital storage oscilloscope. [5]
- 2) Solve any three sub-questions.
 - a) Describe the construction and working of an Electrodynamometer type wattmeter. [5]
 - b) Describe the construction and working of an Low Power factor (LPF) wattmeter. [5]
 - c) Explain working of Hall effect sensor with neat diagram. [5]
 - d) Discuss the working principle of Clamp on meter with neat diagram. [5]
- 3) Solve any three sub-questions.
 - a) What is a significance of measurement? Also discuss the classification of instruments. [4]
 - b) Describe the different elements of Generalized measurement systems. [4]
 - c) Explain the terms static error, static correction, Relative error and Percentage relative error. [4]
 - d) Explain Accuracy and Precision relative to measurement. [4]
- 4) Solve any three sub-questions.
 - a) Explain the principle of working of a Kelvin's Double Bridge. [4]
 - b) Describe the fall of potential method for measurement of earth resistance. [4]
 - c) Describe the working of Megger with the help of neat diagram. [4]
 - d) What are the applications of Wheatstone's bridge and explain its limitations. [4]
- 5) Solve all sub-questions.
 - a) Describe the different criterion for selection of Transducers for a particular application. [3]
 - b) Draw the basic circuit of Thermocouple. [3]

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