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Name of Examination : **Summer 2021** - (Preview)

Course Code & Course Name : **IN253U - Electronic 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 subquestions

- a) Explain OPAMP as an integrator [6]
Numerical: Find the output voltage of an OPAMP integrator after 5 seconds if $R=20K\ \Omega$ and $C=50\ \mu F$. Input voltage is 2-volt dc.
- b) With the help of a circuit diagram explain the Instrumentation amplifier and write its application [6]
- c) Describe OPAMP as voltage to current converters [6]
- d) Explain OPAMP as a differentiator [6]

2) Solve any three subquestions

- a) Describe OPAMP as current to voltage converters [6]
- b) With the help of a circuit diagram explain astable multivibrator and write its application [6]
- c) with the help of a circuit diagram explain LM 317 regulator [6]
- d) What are the sources of errors in electronic counters? [6]

3) Solve any two subquestions

- a) Describe the working of the Q meter [6]
- b) What is the need for Voltage regulation? [6]
- c) Explain heterodyne wave analyzer [6]

4) Solve all subquestions

- a) With the help of a block diagram explain OTDR [6]
- b) With the help of a diagram explain the working of Function Generator [6]

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