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L—281—2019

FACULTY OF SCIENCE

M.Sc. (Fourth Semester) EXAMINATION

MARCH/APRIL, 2019

(CBCS Pattern)

PHYSICS

Paper PH-25B

(Electronic Instrumentation)

(Tuesday, 30-4-2019) **Time : 2.00 p.m. to 5.00 p.m.**

Time—Three Hours *Maximum Marks—75*

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

1. (*a*) Describe in detail the importance of measurements. 7

(*b*) Define error. Explain types of errors in instruments. 8

Or

(*c*) Discuss important characteristics of instruments. 7

(*d*) Define instrumentation. Describe in detail the purpose of instrumentation. 8

2. (*a*) Draw and explain pressure and displacement transducers. 7

(*b*) Define a transducer. Give classification of transducer and explain each of them. 8

Or

(*c*) Draw and explain resistive and inductive transducers. 7

(*d*) With well labelled block diagrams, explain temperature transducers. 8

3. (*a*) What is need of pH measurement ? Explain working of pH meter. 7

(*b*) Draw block diagram of storage oscilloscope and describe working of each block. 8

P.T.O.

Or

(c) Discuss automatic polarity indication in electrical conductivity.

(d) Draw well labelled diagram of conductivity cell and describe its workin principle.

(a) Explain role of PC in instrumentation.

(b) Discuss in detail application of PC for measurement of displacement.

Or

(c) Describe how PC is used for measurement and control.

(d) Explain application of PC for temperature measurement and control.

(a) Describe in detail the use of LVDT for thickness measurement.

(b) Draw block diagram of DMM. Explain function of each block.

Or

(c) Draw block diagram of DFM and describe function of each block.

(d) Write types of data acquisition systems. Explain each of them.

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1—11—2019