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BACHELOR OF TECHNOLOGY (C.B.C.S.) (2014 COURSE)
B.Tech.Sem - VI MECHANICAL : WINTER- 2022
SUBJECT : MECHANICAL MEASUREMENT & METROLOGY

Day : Tuesday

Time : 10:00 AM-01:00 PM

Date : 29-11-2022

W-13453-2022

Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks
 - 3) Use of non – programmable **CALCULATOR** is allowed.
 - 4) Assume suitable data if necessary.
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Q.1 Draw a generalized block diagram of measurement system and explain in detail each stage involved in it with suitable example. **(10)**

OR

State and explain the static characteristics of a measuring instrument. **(10)**

Q.2 Write a short note on **(10)**

- i) Constant Deviation Prism
- ii) Sine Center

OR

Draw a neat sketch of Vernier caliper. Explain the use of each component involved in it. Also mention equation of least count. **(10)**

Q.3 Explain the working of J & K type of thermocouples. State the material used and temperature ranges for each of these. **(10)**

OR

Draw a block diagram of DAQ. Explain the function of each block involved in it. State the applications of DAQ. **(10)**

Q.4 What is mean by CMM? State the different types of CMM and explain any one in detail. **(10)**

OR

State and explain Taylor's principle of gauge design. **(10)**

Q.5 How LVDT is used to measure the applied pressure? Explain with suitable sketch. **(10)**

OR

List the sensors used for measurement of angular displacement and explain any one sensor in detail. **(10)**

Q.6 Write a short note on **(10)**

- i) Optical Profile Projector
- ii) NPL Flatness Interferometer

OR

Write a short note on **(10)**

- i) Span Micrometer
- ii) Bench Micrometer

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