

S.Y.B.SC. (COMPUTER SCIENCE) SEM –IV (2014 COURSE)

:WINTER - 2017

SUBJECT : COMPUTER INSTRUMENTATION

Day : Monday
Date : 06/11/2017

W-2017-0754

Time : 03.00 PM TO 05.00 PM
Max. Marks : 40

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw diagrams **WHEREVER** necessary.
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Q.1 Answer **ANY TWO** of the following: [10]

- a) State different types of touch sensors. Explain any two in brief.
- b) With neat diagram explain signal conditioning system.
- c) Draw block diagram of water level indicator system using float switch and explain it.

Q.2 Answer **ANY TWO** of the following: [10]

- a) Write a note on temperature sensor LM35.
- b) Explain the working of Wheatstone's bridge with neat diagram.
- c) Explain active and passive infrared sensors in brief.

Q.3 Answer **ANY TWO** of the following: [10]

- a) Explain active first order high pass filter with respect to the following points:
 - i) Working principle
 - ii) Frequency response
 - iii) Design
- b) Explain the working of pH electrode with neat diagram.
- c) Explain the working principle of ultrasonic sensor with neat diagram.

Q.4 Answer **ANY FIVE** of the following: [10]

- a) What is PIR? List any two applications of it.
- b) What is electrocardiography?
- c) State the working principle of LVDT.
- d) State types of tilt sensors.
- e) Define the following : dew point and frost point.
- f) Explain the following terms for sensors: accuracy and linearity.
- g) Explain the role of level shifter.

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