S.Y.B.SC. (COMPUTER SCIENCE) SEM –IV (2014 COURSE) :
SUMMER - 2018
SUBJECT : COMPUTER INSTRUMENTATION

Day : **Tuesday**
Date : **24/04/2018**

S-2018-0854

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.

Q.1 Answer **ANY TWO** of the following: **[10]**

a) Explain voltage to frequency convertor with necessary diagrams.

b) Explain the following parameters for sensors:

i) Accuracy **ii)** Linearity **iii)** Sensitivity **iv)** Resolution **v)** Range.

c) Draw circuit diagram of Wheatstone's bridge. Explain the balanced condition for its working.

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

a) Explain the working of Linear Variable Differential Transformer with necessary diagram.

b) What are filter circuits? Explain with diagram basic principle of RC filter circuit.

c) With neat diagram explain the block diagram of water level indicator system using float switch.

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

a) Explain signal conditioning system with necessary diagram.

b) Draw diagram of three OP-AMP instrumentation amplifier and explain it.

c) Write short note on tilt sensor.

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

a) What is band pass filter?

b) State the types of temperature sensors.

c) How is analysis of ECG signal done?

d) State two points of difference between active and passive filters.

e) Give any two applications of Quantum dots.

f) State the features of AD 590.

g) State any two applications of infrared radiation.

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