Printed Pages : 1 Roll No. ☐☐☐☐☐☐☐☐☐☐☐ **EEE022**

B.TECH.

THEORY EXAMINATION (SEM–VI) 2016-17

INTELLIGENT INSTRUMENTATION

Time : 3 Hours   *Max. Marks : 100*

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION-A

1   Explain the following: **(10×2=20)**

a)   What is software based instruments?

b)   What do you mean by string?

c)   What is the use of DMA?

d)   What are the applications of Intelligent Instrumentation?

e)   Write the advantages of virtual instruments?

f)   Define the use of Data Socket.

g)   What is formula code?

h)   Expand PCMCIA

i)   Which are the commonly used operating system(s) for PC hardware?

j)   What are the roles of filters in signal analysis?

SECTION-B

2   Attempt any five of the following: **(10×5=50)**

a)   What are the different classifications of intelligent instrumentation? And also explain the current status of intelligent instrument.

b)   What is the purpose of Code Interface Nodes? Also explain its working in detail

c)   Draw the bus diagram of RS423 in serial interfacing. Explain the working of it with suitable example.

d)   What are the interfacing methods of connecting DAQ Devices to Computers? Also discuss the software structure.

e)   Explain about VI's loops, charts, arrays, graphs, clusters.

f)   Discuss the data flow and graphical programming techniques in virtual instrumentations. Also write their limitations.

g)   Write short notes on Historical Perspective of Intelligent Instrumentation

h)   What is a PXI controller? Explain the types of PXI controllers in detail.

SECTION-C

Attempt any two of the following: **(15×2=30)**

3.   Discuss various types of interrupts used in serial/parallel interfacing. Also draw timing diagram of each of them.

4.   Write short notes on the following :

   (i) String and File Input-Output

   (ii) DLL links

   (iii) Counters

   (iv) Timers

5.   Write short notes on the following :

   (i)   RS232C

   (ii)   RS422

   (iii)   RS485

   (iv)   IEEE488.1 and 488.2