Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

SECOND SEMESTER M.TECH.

END SEMESTER EXAMINATIONS, APRIL - 2018

SUBJECT: VIRTUAL INSTRUMENTATION [ICE 5262]

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitably assumed.

1A. With a neat diagram explain the architecture of virtual instrument. **5**

1B. Explain the role of virtual instrumentation in test, design and control. **3**

1C. Distinguish traditional instruments from virtual instruments. **2**

2A. Draw and explain the various types of charts and graphs in LabVIEW. **6**

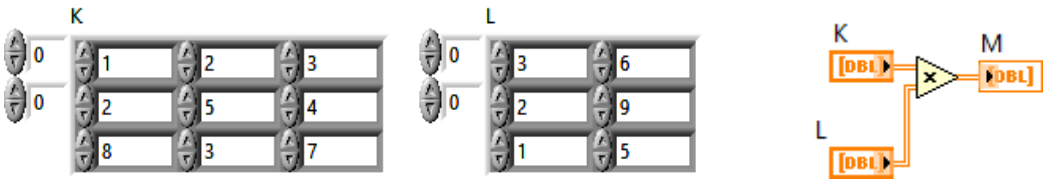
2B. Differentiate shift registers and feedback node. Is initialization needed for them? Justify the answer. **2**

2C. What is cluster order? Why it is important? **2**

3A. Explain any four string functions available in LabVIEW. **4**

3B. Explain tools pallet with icon and functional description of each tool available in it. **4**

3C. What is polymorphism? Write the content of M for the given front panel and block diagram in Fig. 3C (a) & (b) respectively. **2**



(a) (b)

Fig. 3C

4A. Explain high level file I/O available in LabVIEW. **4**

4B. Explain the following types of signal conditioning and specify one practical application of each of them. **3**

(i)Amplification (ii) Isolation (iii) Linearization

4C. Differentiate RS-232 and RS-485. **3**

5A. What is the Current loop communication standard? Briefly explain digitally controlled Current loop with its block diagram. **5**

5B. Explain the GPIB system with a neat diagram and mention their features. **3**

5C. Define VISA and list its functions. **2**