

12 JAN 2023

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Question Paper Code	11638
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV/DEC 2022
Fifth Semester
Instrumentation and Control Engineering
(Common to Electronics and Instrumentation Engineering)
20ICEL501 - VIRTUAL INSTRUMENTATION
(Regulations 2020)

Duration: 3 Hours

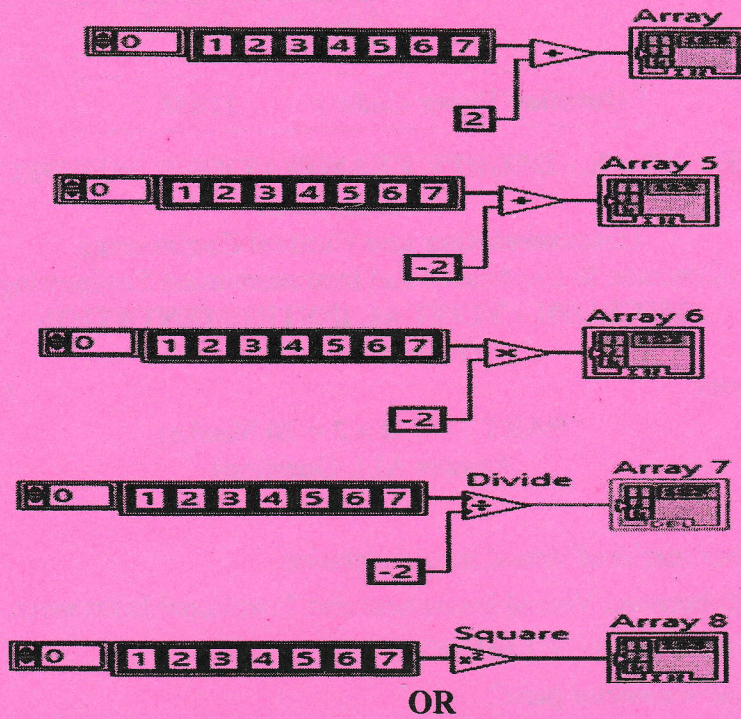
Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. List any four merits of virtual instrumentation. | 2,K1,CO1 |
| 2. Distinguish between Virtual Instrument and Traditional Instrument. | 2,K2,CO1 |
| 3. Name the three palette of LabVIEW. | 2,K1,CO2 |
| 4. What is icon/connector pane? | 2,K1,CO2 |
| 5. Define data acquisition systems. | 2,K1,CO3 |
| 6. What is the purpose of DAQ MAX? | 2,K1,CO3 |
| 7. Which tool is used for Image Analysis? | 2,K1,CO4 |
| 8. Differentiate spectrum and power spectrum analyzers. | 2,K2,CO4 |
| 9. Classify the different types of Structure in LabVIEW. | 2,K2,CO5 |
| 10. What is Formula Node? | 2,K1,CO5 |

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

11. a) Explain in detail Virtual instrumentation for design with its flow diagram. 13,K2,CO1
- OR**
- b) Draw a block diagram of atypical embedded system software and hardware design flow and explain in detail. 13,K2,CO1
12. a) Solve and give the answer for the followings by using array function. 13,K3,CO2



OR

- b) Choose NOT, AND, OR gates using NAND gate and verify their truth table by using Boolean function. 13,K3,CO2

13. a) Write a short note about counters and timers. 13,K2,CO3

OR

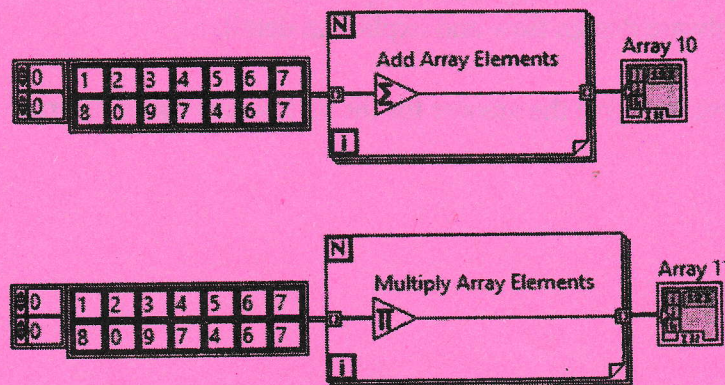
- b) Explain in detail about the components of computer based measurement system. 13,K2,CO3

14. a) Explain in detail about image acquisition system in LabVIEW. 13,K2,CO4

OR

- b) Write a short note on filtering and linearization techniques. 13,K2,CO5

15. a) Solve and give the answer for the following 13,K3,CO5



OR

- b) Explain in detail the role of shift register in loops? How to initialize the shift register in structures? How to replace tunnels with shift registers and vice versa 13,K2,CO5

PART - C (1 × 15 = 15 Marks)

16. a) Explain in detail about the signal processing module in function palette. 15,K2,CO4

OR

- b) Solve and give the answer for the following. 15,K3,CO5

