1290

Code : 15EC32T

Register Number | | | | | | | |

III Semester Diploma Examination, April/May-2018

DIGITAL ELECTRONICS

Time : 3 Hours] **[Max. Marks : 100**

Note : (i) Answer any **six** full questions from Part – **A**
(ii) Answer any **seven** full questions from Part – **B**

PART – A

1. Define decoder. List applications of Decoder. **5**

2. State race around problem. Illustrate elimination of same using logic diagram. **5**

3. Define registor. List application of shift registors. **5**

4. Write short note on Counter. **5**

5. Define following w.r.t. ADC: **5**
   (a) Conversion time
   (b) Quantization error
   (c) Accuracy

6. Explain Dynamic Random Access Memory Cell. **5**

7. Write a note on Flash memory. **5**

8. Compare fixed logic device and programmable logic device. **5**

9. Define : **5**
   (a) fan out
   (b) power dissipation
   (c) propagation delay of logic gates

[Turn over

PART – B

10. Explain decimal to BCD encoder and also write logic diagram, truth table and logic symbol. **10**

11. Construct BCD to seven segment decoder and explain logic diagram, truth table and logic symbol. **10**

12. Explain JK flip-flop with the help of logic diagram, truth table and timing diagram. **10**

13. (a) Explain with the help of circuit diagram of astable multivibrator using IC 555 timer. **7**

    (b) List features of IC 555 timer. **3**

14. (a) Explain serial in serial out shift register with logic diagram and truth table. **5**

    (b) Explain ring counter with diagram and truth table. **5**

15. State modulus of a counter. Explain configuration of decade counter using IC 7490 and write logic diagram and truth table. **10**

16. (a) List application of DAC. **5**

    (b) List specifications of DAC. **5**

17. Construct circuit diagram of dual slope ADC and explain. **10**

18. (a) Implement and explain full adder using PAL write logic diagram and truth table. **5**

    (b) Explain memory word size and capacity of memory with examples. **5**

19. (a) Compare TTL and CMOS logic families. **5**

    (b) Explain circuit diagram & working of TTL NAND gate. **5**