



**K22U 1546**

Reg. No. : .....

Name : .....

**IV Semester B.Sc. Degree CBCSS (OBE) Regular/Supplementary/  
Improvement Examination, April 2022**

**(2019 Admission Onwards)**

**GENERAL AWARENESS COURSE IN COMPUTER SCIENCE**

**4A13CSC : Digital Electronics**

Time : 3 Hours

Max. Marks : 40

**PART – A  
(Short Answer)**

Answer **all** questions :

1. What is a digital system ?
2. Give the analog waveform.
3. What is a K-Map ? What is its use ?
4. Define a Quad.
5. What is the use of a counter ?
6. Give an example for a POS equation.

**(6×1=6)**

**PART – B  
(Short Essay)**

Answer **any six** questions :

7. Explain Unicode.
8. Give the truth table of XOR Gate.
9. Draw circuit diagram of NOR Gate.
10. Can a POS equation be converted to SOP equation ? Give an example.

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11. Demonstrate how NOR gate used as a NOT gate.
12. Give an example for a parallel counter. What is its function ?
13. What is an asynchronous counter ? Give an example.
14. What are latches ? Explain.

**(6×2=12)**

**PART – C  
(Essay)**

Answer **any four** questions :

15. Convert binary (1001) to decimal.
16. Convert decimal 1978 to octal.
17. Explain DeMorgan's second theorem.
18. Explain Duality Principle.
19. What is a Multiplexer and Demultiplexer ?
20. Explain synchronous counters.

**(4×3=12)**

**PART – D  
(Long Essay)**

Answer **any two** questions :

21. Explain the different number systems.
22. Demonstrate how K-Map can be used to simplify equations.
23.  $Y = \bar{A}\bar{B}\bar{C}D + \bar{A}BC\bar{D} + A\bar{B}C\bar{D}$ , show its simplified NORNOR circuit.
24. Explain JK Flip Flop.

**(2×5=10)**

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