Third Semester FYUGP Degree Examination NOVEMBER 2025

KU3DSCCSC202 - DIGITAL SYSTEMS

2024 Admission onwards

Time : 2 hours   Maximum Marks : 70

Section A

Answer any 6 questions. Each carry 3 marks.

1. What are the advantages and disadvantages of analog systems?

2. What are the advantages and disadvantages of digital systems?

3. State and explain Demorgan's theorem

4. Simplify the following function using 3 variable K map,F(xyz)=sum(0,2,4,5,6)

5. Write the steps to convert a SOP into a standard form

6. List any four applications of decoders.

7. Define a combinational circuit.

8. State the difference between parity generator and parity checker.

Section B

Answer any 4 questions. Each carry 6 marks.

9. State DeMorgan's theorem and give the truth table for the same.

10. Draw the logic gates of   (i) A + (B + C)   (ii) AB + BC

11. Use a 3-variable K-map to simplify $F(A, B, C) = \sum m(1, 2, 3, 5, 7)$.

12. Explain half adders and full adders.

13. Expalin Parity Generator.

14. Compare Multiplexers and DeMultiplexers.

Section C

Answer any 2 questions. Each carry 14 marks.

15. Explain Asynchronous Decade Counter in detail.

16. Explain the difference between 3 bit synchronous counters with timing diagrams.

17. Expalin the various number systems and the methods for conversion from one to the other.