UNIVERSITY OF KERALA
First Degree Programme in Computer Applications
Model Question Paper
Semester I
Course Code- CP 1132
Digital Electronics
TIME : 3 hrs Maximum Mark: 80

SECTION A [*Very Short Answer type*]
*(one word to maximum of one sentences, Answer **ALL** questions)*
10 x 1 = 10 marks
1.____ is an electronic circuit that is constructed entirely on a single small chip
a) multiplexer circuit b) Adder circuit c) Integrated circuit d) All of the above
2. ASCII is a ___ bit alphanumeric code
a)4 b)2 c)7 d)8
3. Which one of the following is used as the passive component in electronic circuits
a) resistor b) Vacuum triode c) transistor d) tunnel diode
4. The complement of a variable is always
a) 0 b) 1 c) equal to the variable d) inverse of the variable
5. Unit of Capacitance is ----------
a) Ohms b)Ampere c)Farad d) None of these
6. An example of a data storage device is
a) logic gate b) flip-flop c) comparator d) decoder
7. Data selectors are basically the same as
a) Decoder b) DEMUX c) Multiplexer d) Encoder
8. BCD of decimal number 67 is ___
9. What is an inverter?
10. What is ASCII code?
SECTION B [short answer]
*[Not to exceed one paragraph, Answer any **EIGHT** questions.*
*Each question carries **TWO** marks]*
8 x 2 – 16 marks
11. What is the difference between digital and analog system?
12. What are the various components of a digital circuit?
13. What are Flip flops?
14. Draw a half adder logic diagram.
15. What are known as basic gates?
16. What is an inductor? What is the unit of inductance?
17. Draw the circuit diagram for the expression A+B(A+C)+D
18. Define Comparator.
19. Briefly explain about the counter?
20. List three types of latches?
21. Define pulse?
22. Define gray code with suitable example.
SECTION C [short essay]
*[Not to exceed 120 words, Answer any **SIX** questions.*
*Each question carries **FOUR** marks]*
6 x 4=24 marks
23. Define edge triggered flip flop

24. Write short note of shift registers?
25. a) Convert the binary number 100111001 to hexa decimal
b) Convert the decimal number 123.345 to binary
c) Subtract 10111 from 110001
26. Develop a truth table for the standard SOP expression A'B'C+AB'C'+ABC
27. Describe the function of Full Adder Circuit
28. What is the function of a rectifier? List the different types of rectifier?
29. Explain briefly about universal gates
30. Differentiate Decoder and Encoder circuit
31. What is meant by molecular electronics?

SECTION D [Long Essay]

*[Answer any **TWO** questions. Each question carries **15** marks]*

2 x 15 = 30 marks

32. a) Explain about Multiplexer and De-multiplexer
b) State De Morgan's theorem and apply it on the expression (A+B+C)' + (D'E)'
33. Explain briefly about Numeric codes with suitable examples.
34. What are active and passive components? Explain in detail about the applications of electronics?
35. Discuss the different CMOS and ECL families.