

(4)

Group E

Answer any one question : 1x5=5

7. Draw the circuit diagram of a OP-AMP integrator. Derive the expression of output in time domain. 5
8. a) Explain an inverting amplifier ckt using OP-amp? 3
- b) What is class-B amplifier? 2
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Total Pages : 4

End Semester Examination of Semester-I, 2015

Subject : COMPUTER SCIENCE (HONS)

Paper : I (Theory)

Full Marks : 40

Time : 2 Hrs

The figures in the margin indicate the marks corresponding to the question

Candidates are requested to give their answers in their own word as far as practicable.

Illustrate the answers wherever necessary.

M1+M2 [Computer Fundamental and C Programming]

Group A

Answer any five questions: 5x2=10

1. a) Distinguish between an array and a structure.
- b) Explain the comma operator with an example.
- c) What is the difference between *P++ and P++?
- d) What is the difference between a macro and a function?
- e) Subtract $(10010.11)_2$ from $(111001.001)_2$ using 1's complement method.
- f) What is secondary storage? How it differs from a primary storage.
- g) Convert $(145A.3D7)_{16}$ to its equivalent octal number.

(2)

Group B

Answer any one question : 1x5=5

2. a) What is union? For what kind of applications are unions useful? Explain with an example. 1+2
- b) What are advantages and limitations of machine language? 2
3. a) What is a null character? What is its use in a string? 1+1
- b) What is the use of continue statement in C program. 1
- c) Explain the difference among assembler, compiler, interpreter and linker. 2

Group C

Answer any one question : 1x10

4. a) How an array is passed to a function C? Write a function which accepts an array as an argument and finds the average of its elements. 4
- b) Write a program in C to swap the values of two variables using pointers concept. 4
- c) What is a Parity bit? 2

(3)

5. a) What will be the output (i.e. value of a) of the statement:
a = b > c? c > d? 12 : d > e? 13 : 14 : 15;
in each of the following case :
i) b = 5, c = 15, d = e = 8
ii) b = 15, c = 10, d = e = 8
iii) b = c = 9, d = 20, e = 19
iv) b = c = 15, d = 10, e = 5 4
- b) Write a C program to find the value of x^n using recursion. 4
- c) What is EBCDIC? Explain. 2

M3 : [Basic Electronics]

Group D

6. Answer any five questions : 5x2=10
- a) Define the term diffusion current. 2
- b) What is the function of gate in JFET? 2
- c) In a transistor $\beta = 45$, the voltage across $5\text{ K}\Omega$ resistance which is connected in collector circuit is $\alpha = 5$ volts. Find the base current. 2
- d) Why FET is called a Unipolar transistor? 2
- e) What is Q-point? 2
- f) What is doping? 2
- g) What is transconductance? 2