

3E2075

Roll No. \_\_\_\_\_

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3E2075

B. Tech. III Sem. (Old Back) Examination

2006-07, 07-08, 08-09 Feb. 2014

Digital electronics 3CSS

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks: 24

*Instructions to Candidates:-*

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.*

*Use of following supporting material is permitted during examination.*

1. \_\_\_\_\_

2. \_\_\_\_\_

### UNIT-I

Q.1 (a) Define the following with example: [8]

- (i) Alphanumeric code
- (ii) Parity Bit
- (iii) Weighted and Non-weighted codes

(b) Find the complements of following Boolean functions and also reduce them

(i)  $(\overline{A} B) + \overline{A} + A B$

(ii)  $(\overline{A + B}) \cdot \overline{A} \cdot (A + B)$

[8]

**OR**

- Q.1 (a)** Convert the following numbers: [4+4]
- (i) 1938.257 decimal to hexadecimal
  - (ii) 175.175 decimal to binary
- (b)** Perform following arithmetic operation [4+4]
- (i)  $-(205)_{10} + (171)_{10}$  Using 1's complement
  - (ii)  $(202)_{10} - (171)_{10}$  Using 2's complement

**UNIT-II**

- Q.2 (a)** Explain the working principal of TTL NAND gate. Also explain open collector TTL. [8]
- (b)** Explain a 2 – input NAND gate using 7400 TTL series and explain its working. [8]

**OR**

- Q.2 (a)** Explain the propagation Delay in Digital logic gates. [8]
- (b)** Explain the following [4+4]
- (i) Power Dissipation
  - (ii) Noise Margin

**UNIT-III**

Q.3 (a) Explain complete steps used in Quine MCClusky minimization techniques for simplify any expression [10]

(b) Simplify the Boolean expression (function) in [6]

(i) Sum of product

(ii) Product of Sum

Deduce its logic circuit

$$F(A, B, C, D) = \sum m(0, 1, 2, 5, 8, 9, 10)$$

**OR**

Q.3 (a) Using K – map method, simplify the following Boolean function and obtain: [8]

(i) Minimal SOP form

(ii) Minimal POS form

$$Y = \sum m(0, 2, 3, 6, 7) + \sum d(8, 10, 11, 15)$$

(b) The following Boolean expression

$$F = Z(w' + y) \text{ is a simplified version of the expression } F = (w' + y)(x' + z)(w' + z)$$

Find the don't care condition, if any [8]

**UNIT-IV**

Q.4 (a) How many 2 to 1 multiplexers are needed to construct a 32 to 1 multiplexer. Provide an expression for similar computational to realize a 'm' to '1' multiplexer where  $m = 2^k$  [10]

- (b) How many 4 input multiplexers are needed to implement a 256 input multiplexer? How many levels will there be. [6]

**OR**

- Q.4 (a) Design a four input Priority Encoder. [8]  
(b) Write a note on BCD to 7 segment decoder. [8]

**UNIT-V**

Q.5 Consider a J K flip flop.

- (i) Obtain the flip – flop characteristics table. [8]  
(ii) Obtain the characteristics equation. [8]

**OR**

Q.5 Perform the following conversion:

- (a) J – K Flip – Flop to D Flip – Flop. [8]  
(b) Realize a J – K Flip – Flop using S – R Flip – Flop. [8]

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3E2072

Roll No. \_\_\_\_\_

Total No of Pages: 4**3E2072****B. Tech. III Sem. (Old Back) 2006-07, 07-08 and 08-09****Exam. Feb. 2014****Computer Engineering****3CS2 ELECTRONIC DEVICES & CIRCUITS****Time: 3 Hours****Maximum Marks: 80****Min. Passing Marks: 24***Instructions to Candidates:-*

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.*

*Use of following supporting material is permitted during examination.*

1. Nil2. Nil**UNIT-I**

Q.1 (a) The forward current in a PN diode is 28 mA when forward voltage is 1.5 volt at room temperature. Calculate the diode current when -

(i) Forward voltage is 3.8 volt.

(ii) Reverse voltage is 15 volt.

[5x2=10]

(b) Draw the neat circuit diagram of a negative clamper diode.

[6]

700

**OR**

Q.1 (a) Draw the diode circuit when it is working as:

(i) Clipper

(ii) Clamper

(iii) Switch

(iv) Resistor or capacitor

[4x3=12]

(b) Draw the diode equivalent circuit.

[4]

**UNIT-II**

Q.2 Define stability factor of a biasing circuit. Find the different stability factor expression for -

$\frac{\partial I_c}{\partial \beta}$ ,  $\frac{\partial I_c}{\partial I_{co}}$  and  $\frac{\partial I_c}{\partial V_{be}}$  in the Fig 1.

[16]

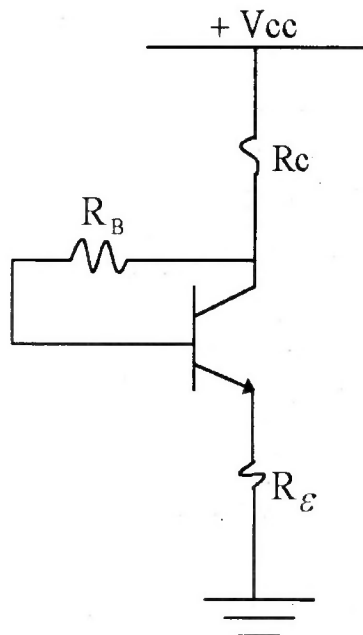


Fig-1

OR

Q.2 Find the different current ( $I_C$ ,  $I_B$ ,  $I_E$ ) and junction Voltage  $V_{CE}$ ,  $V_{BC}$ , in the figure - 2, assume  $\beta = 30$ . [16]

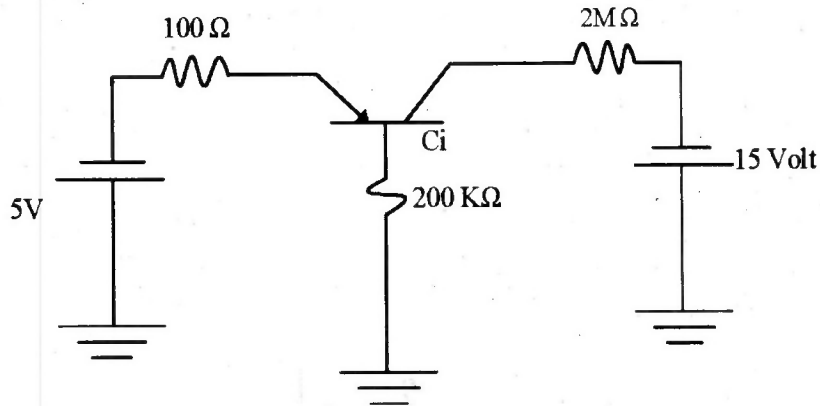


Fig - 2

UNIT-III

Q.3 Explain the pinch off phenomena in a Field Effect Transistor (FET) and find the expression for drain to source current ( $I_{ds}$ ) in terms of  $V_{gs}$  and  $V_{ds}$ . Also state the conditions for linear and saturation region operation. [16]

OR

- Q.3 (a) Draw the model of a FET at low frequency and explain the different component of it in detail. Also state the typical value of these parameters. [8]
- (b) How FET is working as voltage variable resistor and write its different applications. [8]

UNIT-IV

Q.4 Draw the circuit diagram of a two (2) stage common collector (CC-CC) configuration and compare this with Darlington pair. Find the effective current gain and input resistance expression in both CC-CC and Darlington pair. [16]

**OR**

Q.4 Draw the AC equivalent of a common source (CS) amplifier shown below in fig 3.

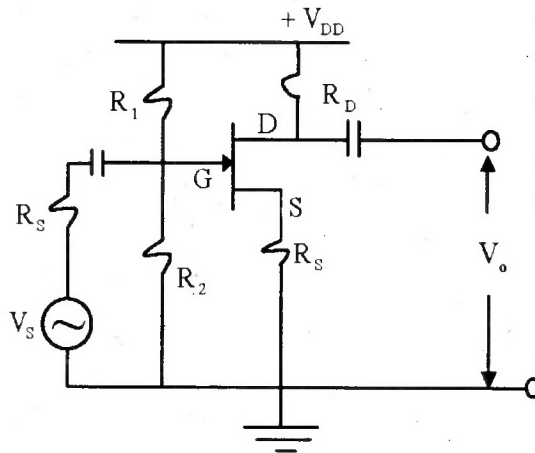


Fig.- 3

Find its gain at low and high frequency. Also find the frequency response of it.

[16]

**UNIT-V**

Q.5 (a) Draw the circuit diagram of a monostable multivibrator and also draw the voltage waveforms at different nodes when a trigger is applied to it. [8]

(b) Find the expression for oscillation frequency of a Hartley oscillator. [8]

**OR**

Q.5 Write short notes on any two -

- (i) Schmitt trigger.
- (ii) Crystal oscillator.
- (iii) Criterion for oscillation.
- (iv) Astable multivibrator.

[8x2=16]



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Total No of Pages: 4**3E2077****3E2077****B. Tech. III Sem. (Old Back) 2006-07,07-08 and 08-09****Examination Feb. 2014****Computer Engg.****3CS6.2 FUNDAMENTALS OF LINUX AND SHELL PROGRAMMING****Time: 3 Hours****Maximum Marks: 80****Min. Passing Marks: 24***Instructions to Candidates:-*

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*Use of following supporting material is permitted during examination.*

1. NIL2. NIL**UNIT - I**

Q.1 What is the basic difference between Dos, Window-95 and UNIX? [8]

Q.2 Which different types of shells are available in UNIX? Explain then in brief. [8]

**OR**

Q.1 What are the different Security mechanism are available in UNIX? [8]

Q.2 Explain the following UNIX Commands [8]

- (i) Kill
- (ii) Pkill
- (iii) Grep
- (iv) Pwd

**UNIT - II**

Q.1 What are the three modes of operation of vi? Also explain the purpose of .exrc file. [8]

Q.2 Explain the difference between yank and delete with suitable example. [8]

**OR**

Q.1 What is the difference between the following vi commands [2x4=8]

- (i) :w
- (ii) :q!
- (iii) :wq
- (iv) ZZ

Q.2 Which vi Command would you see to perform the following cursor movement operations:- [8]

- 3 words to the right
- 4 words to the left
- Top of the screen
- Bottom of the Screen

- Beginning of the Current line
- End of the Current line
- Beginning of file
- End of line

**UNIT - III**

- Q.1 Explain here we can Customize the fvwm window manager. [8]
- Q.2 Explain yum technology in detail. [8]

**OR**

- Q.1 Explain how we can brows internet using Mozilla Firefox and elinks tool [8]
- Q.2 Write a short Note an X-window as client/server system. [8]

**UNIT - IV**

- Q.1 The length and breadth of a rectangle and radius of a circle are input through the keyboard. Write a shell script to calculate the area and perimeter of the rectangle. and the area & circumference of the circle. [16]

**OR**

- Q.1 Explain the meaning and purpose of the shell. Also Explain the korn shell and c shell in detail. [16]

**UNIT - V**

- Q.1 Explain the Here document in detail. [8]
- Q.2 Explain Source Code management using RCS and CVS also Explain awk utility [8]

**OR**

Q.1 Write a Short Note on Expanding the following:-

- (i) Bulletins
- (ii) aliases
- (iii) job Control
- (iv) file substitution

[4x4=16]

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**3E1466**

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Total No of Pages: **2****3E1466****B. Tech. III – Sem. (Old Back) 2006-07, 07-08 and 08-09****Feb 2014****Computer Engineering****3CS6.1 MANAGEMENT INFORMATION SYSTEMS****Time: 3 Hours****Maximum Marks: 80****Min. Passing Marks: 24***Instructions to Candidates:-*

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Unit of quantities used / calculated must be stated clearly.*

*Use of following supporting material is permitted during examination.*

1. \_\_\_\_\_

2. \_\_\_\_\_

**UNIT-I**

Q.1 What is management Information system? Briefly discuss the various characteristics of MIS, with the help of appropriate example. [16]

**OR**

Q.1 Discuss the process of management in detail, along with various organizational structures. [16]

**UNIT-II**

Q.2 (a) Explain system development model in corporate with management information system. [10]

(b) Write short note on Decision making [6]

OR

- Q.2 (a) Explain system concepts with types of systems. [8]  
(b) Write short note on system handling. [8]

UNIT-III

- Q.3 (a) Explain various issues related to the development of Management Information System. [8]  
(b) What is the requirement of MIS? Explain. [8]

OR

- Q.3 With the help of an appropriate example, explain the concept of choice of information technology for MIS [16]

UNIT-IV

- Q.4 Explain various applications of Management Information System in detail. [16]

OR

- Q.4 (a) Explain how MIS can be implemented, in manufacturing sector for personal Management? [10]  
(b) Discuss the application of MIS in service sector. [6]

UNIT-V

- Q.5 Write short note on (Any Two) - [8x2]  
(a) EMS  
(b) ERP  
(c) Application of SAP Technology in manufacturing sector  
(d) Benefits of implementation of MIS

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3E1461

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Total No of Pages: 2

3E1461

B. Tech. III – Sem. (Reback) Examination Feb. 2014

Computer Engg. Till -2008-09

3CP/CS1 (O) Digital Electronics

Common for CP, IT

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks: 24

Instructions to Candidates:-

Attempt any **five** questions, selecting **one** question from **each** unit. All questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Unit of quantities used / calculated must be stated clearly.

Use of following supporting material is permitted during examination.

1. \_\_\_\_\_

2. \_\_\_\_\_

### UNIT-I

Q.1 (a) Explain Boolean Algebra & fundamental theorems. [8]

(b) Reduce to its minimum sum of product form. Then implement it in logic circuit

$$X = \overline{A}BCD + \overline{A}BC\overline{D} + \overline{A}B\overline{C}D + \overline{A}B\overline{C}\overline{D} + \overline{A}BCD \quad [8]$$

OR

Q.1 (a) Construct a logic circuit for expression [8]

$$Y = AC + B\overline{C} + \overline{A}BC$$

(b) Simplify the expression [8]

$$Y = ABC + A\overline{B}(\overline{AC})$$

## UNIT-II

- Q.2 (a) Simplify the expression using K-map [8]  
 $F(A, B, C, D) = \sum(0, 3, 6, 7, 9, 13, 14, 15)$
- (b) Explain tabular determination of multiple output prime implicants. [8]

OR

- Q.2 (a) Using karnaugh map, simplify the function - [8]  
 $F(A, B, C, D) = (A + B + C)(\bar{A} + \bar{C} + D)(A + \bar{D})(\bar{B} + \bar{C})$
- (b) Define multiple output circuits. [8]

## UNIT-III

- Q.3 (a) Explain by help of block diagram & circuit diagram a multiplexer. [16]

OR

- Q.3 (a) Explain by help of block diagram & circuit diagram an Adder, Sub tractor. [16]

## UNIT-IV

- Q.4 (a) State assignment & memory element input equations. [8]
- (b) Explain advantages of clock, pulse & level mode sequential circuits. [8]

OR

- Q.4 (a) Define Mealy & Moore machines. [8]
- (b) Explain S-K Flip flop. [8]

## UNIT-V

- Q.5 (a) Explain CMOS Logic circuit. [8]
- (b) Explain positive & negative logic of XNOR gates. [8]

OR

- Q.5 Write short note on any two - [8+8]

- 1) RTL
- 2) DTL
- 3) DCTL
- 4) TTL

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Roll No. \_\_\_\_\_

Total No of Pages: 4

3E1464

B. Tech. III – Sem. (Reback) Examination Feb. 2014

Till – 2008-09

3CP/CS 4(O) Discrete Mathematical Structure

Time: 3 Hours

Maximum Marks: 80

Min. Passing Marks: 24

*Instructions to Candidates:-*

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1. \_\_\_\_\_

2. \_\_\_\_\_

### UNIT-I

Q.1 (a) Show that the proposition formula -

$$(p \wedge q) \wedge (r \wedge s) \rightarrow p \text{ for any proposition } p, q, r, s \text{ is a tautology} \quad [10]$$

(b) Show that -

$$\sim \{p \vee (\sim p \wedge q)\} \text{ and } \sim p \wedge \sim q \text{ are logically equivalents.} \quad [6]$$

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OR

Q1 (a) Test the validity of the following arguments -

'If my brother passes the examination, I will give him a prize'. Either he passed the examination or I was out of home. I did not give him any prize, through he had passed. Is the conclusion of the above is that I was out of home. [10]

(b) Test the validity of the statement [6]

$$p \rightarrow q$$

$$q$$

$$p$$

UNIT-II

Q2 (a) Prove that [8]

$$(p \wedge q) \vee (p \wedge r) \equiv p \wedge (q \vee r)$$

(b) Solve the Recurrence Relation [8]

$$Y_{n+2} - 6Y_{n+1} + 8Y_n = 3n^2 + 2 - 5 \cdot 3^n$$

OR

Q2 (a) Prove using principle of mathematical Induction that [8]

$$P(n) = 1 \cdot 3 + 2 \cdot 4 + \dots + n(n+2) = \frac{n(n+1)(2n+7)}{6}$$

(b) Solve  $Y_{n+2} + a^2 Y_n = \cos an$  [8]

UNIT-III

Q1 (a) Draw the Graph which are - [8]

(i) Neither an Euler circuit Nor a Hamilton Cycle.

(ii) An Euler circuit but No Hamilton Cycle.

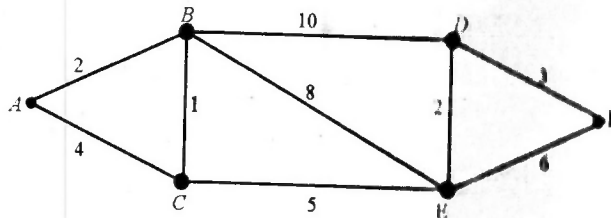
(iii) A Hamilton Cycle but No Euler Circuit.

(iv) Both a Hamilton Cycle and an Euler circuit.

(b) Prove that a Simple graph with  $n$  vertices and  $k$  components can have at the most  $\frac{(n-k)(n-k+1)}{2}$  edges. [8]

OR

Q.3 (a) Find the length of the shortest path between the vertices A and F in the following weighted graph [8]



(b) If in a tree there are  $n$  vertices of degree 1, 2 vertices of degree 2, 4 vertices of degree 3 and 3 Vertices of degree 4, then find  $n$ . [8]

### UNIT-IV

Q.4 (a) Prove that the Relation of 'congruency modulo  $n$ ' define as [8]

$a R b$  if  $a \equiv b \pmod{n}$  i.e. when

$$a - b = \text{a multiple of } n$$

is an Equivalence Relation in the set of Integers  $I$ .

(b) Suppose 100 of the 120 students of Mathematics at a college take at least one of the languages Hindi, English and German. Also suppose 65 study Hindi, 45 study English and 42 German. If 20 study Hindi and English, 25 study English and German and 15 study Hindi and German, find the number of student who study all the three languages. [8]

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**OR**

Q.4 (a) Find the Inverse – Discrete Fourier Transform of the sequence

$$D_j = \{0, 1 - w^2, 1 - w\} \quad [8]$$

(b) For any set A, B, C Prove that

(i)  $(A - B) \cup (B - A) = A \cup B - A \cap B.$  [4]

(ii)  $(A - B) - C = A - (B \cup C)$  [4]

**UNIT-V**

Q.5 (a) Show that the set of even Integers  $E = \{\dots -4, -2, 0, 2, 4, \dots\}$  [8]

for the operation  $a * b = \frac{ab}{2}$  is a monoid.

(b) If  $(G, *)$  be a group and  $H \subseteq G$  be a non empty subset of G, then H is subgroup of G, if and only if [8]

$$a \in H, b \in H \Rightarrow a b^{-1} \in H.$$

**OR**

Q.5 (a) Prove that if in a group G every element is its own inverse then G is an abelian Group. [8]

(b) Show that the set G of four mappings  $\{f_1, f_2, f_3, f_4\}$  defined by

$f_1(x) = x, f_2(x) = -x, f_3(x) = \frac{1}{x}, f_4(x) = -\frac{1}{x}, f_x \neq 0$  is a group under the operation composition of mapping. [8]

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**JE1462**

**B. Tech. III Sem. (Old Back) 2006-07, 07-08 and 08-09**

**Examination Feb. 2014**

**Computer Engineering**

**3CS2 ELECTRONIC DEVICES & CIRCUITS**

**Time: 3 Hours**

**Maximum Marks: 80**

**Min. Passing Marks: 24**

*Instructions to Candidates:-*

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1. NIL \_\_\_\_\_

2. NIL \_\_\_\_\_

### UNIT - I

Q.1 (a) Draw the output voltage versus input voltage ( $V_i$ ) in following fig - 1 under the two conditions -

- (i) Diode on resistance zero, and
- (ii) Diode on resistance  $100 \Omega$

Assume the off resistance of diode as infinite.

[5 × 2=10]

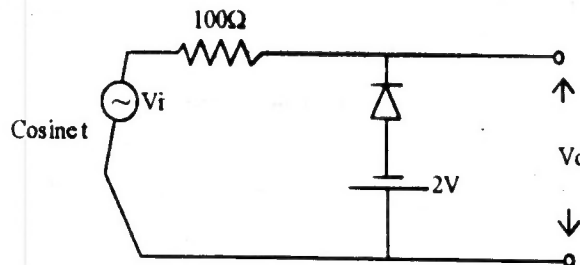


Fig - 1

- (b) Draw voltage double (Half wave) circuit. [6]

**OR**

- Q.1 (a) Draw the following Diode circuit -  
 (i) Single level clipping circuit that clip the I/P wave at 1.5 volt.  
 (ii) Clamping circuit using diode that clamp a I/P wave at +2volt. [5 × 2=10]

- (b) Draw diode equivalent circuit. [6]

**UNIT - II**

- Q.2 Draw the construction diagram of -  
 (i) Enhancement mode n - channel MOSFET  
 (ii) Depletion mode P - channel MOSFET  
 (iii) Photo diode  
 (iv) LED [4 × 4=16]

**OR**

- Q.2 Draw the characteristic curve of -  
 (i) Photo transistor  
 (ii) LED & LDR  
 (iii) UJT  
 (iv) Thermistor [4 × 4=16]

**UNIT - III**

- Q.3 (a) If the h - parameter value of a Common emitter (CE) are  
 $h_{ie} = 10K\Omega$ ,  $h_{re} = 10^{-4}$ ,  $h_{fe} = 5000$ ,  $h_{oe} = 10^{-6}$   
 Then find the h - parameter for  
 (i) Common base configuration (CB), and  
 (ii) Common collector (CC) configuration [5 × 2=10]

- (b) Draw the low frequency common source (CS) amplifier and find the expression for its gain. [6]

OR

- Q.3 (a) Draw the Ebers-Moll model of a BJT and compare it with hybrid model or h - parameter model. [8]
- (b) How field effect transistor (FET) works as a variable resistor when its channel resistance varies with  $V_{gs}$  and  $V_{ds}$ . Draw the resistance variation curve for each and explain the reason for such variation. [8]

### UNIT - IV

- Q.4 Draw the AC and DC equivalent of a cascaded amplifier shown in fig - 2. Find the overall voltage and current gain expression for it. [16]

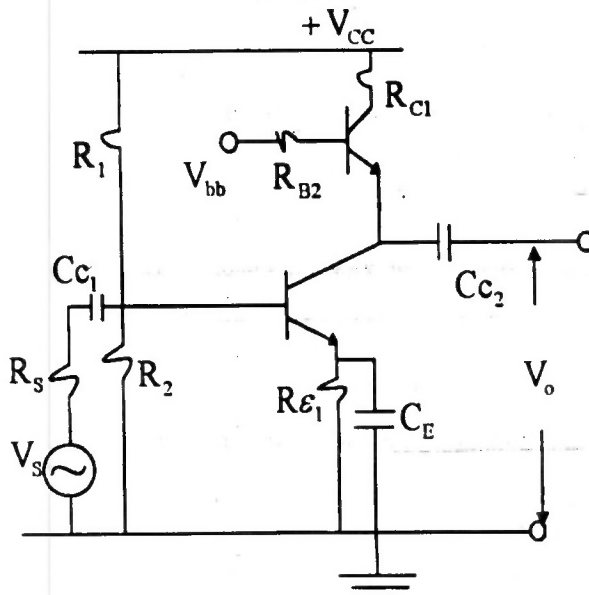


Fig. - 2

**OR**

- Q.4 Draw the circuit diagram of a differential amplifier and find its common mode and difference mode gain. Using these expressions, find the expression for common mode rejection ratio (CMMR). [16]

**UNIT - V**

- Q.5 (a) Draw the circuit diagram of a crystal oscillator and explain the reason for its highest stability. [8]
- (b) Find the expression for oscillation frequency of a RC phase shift oscillator. [8]

**OR**

- Q.5 (a) Explain the working of Schmitt trigger. Define its upper trip point and lower trip point on its Hysteresis curve. [8]
- (b) Draw the Wien bridge oscillator and find its frequency. [8]
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<p><b>3E1463</b></p> <p><b>B. Tech. III–Sem. (Main/Back) Examination Feb. 2014</b></p> <p><b>Electrical &amp; Electronics</b></p> <p><b>3EX6.1 Data Structures &amp; Algorithm</b></p> <p><b>(Common for CP &amp; IT)</b></p>		

**Time: 3 Hours**

**Maximum Marks: 80**  
**Min. Passing Marks: 24**

*Instructions to Candidates:-*

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1. \_\_\_\_\_

2. \_\_\_\_\_

**UNIT-I**

Q.1 (a) What is complexity of Algorithm? Explain the various notations used for time complexity of Algorithm [16]

**OR**

Q.1 (a) Explain the representation of link list in a memory. [8]

(b) Write an algorithm to insert an element into a linked list of the beginning and into sorted list. [8]

**UNIT-II**

- Q.2 (a) What is back – tracking? Implement parenthesis matching using stack. [8]
- (b) Write an algorithm to dequeue in a boarded queue. [8]

**OR**

- Q.2 (a) Define stack. Explain its basic operation. [8]
- (b) Discuss the Tower of Hanoi problem. [8]

**UNIT-III**

- Q.3 (a) Insert the following list of integers in binary search tree and write algorithm for the insertion in binary tree:- [16]

7, 39, -2, 0, 3, 42, 21, 5, 40

**OR**

- Q.3 (a) Differtiate between Binary Search tree and Indented Binary Search tree. [8]
- (b) What do you understand by AVL tree? Insert the following list of data in an AVL tree.

60, 73, 75, 76, 79, 81, 82, 300, 0, 5, ad 73 [8]

**UNIT-IV**

- Q.4 (a) Explain BFS traversal with a suitable example. [8]
- (b) Implement adjacency list using array. Which representation of graph is better? [8]

OR

Q.4 Which minimum spanning tree algorithm is better? Explain Kruskal algorithm with suitable example. [16]

UNIT-V

Q.5 (a) Write an algorithm to sort a list of N integer elements using bubble sort. [8]  
(b) Suppose an Array A contains 8 elements as follows- [8]  
77, 33, 44, 11, 88, 22, 66, 55  
Sort this array using selection sort.

OR

Q.5 (a) Sort the following data using radix sort. [8]  
2349, 2965, 0345, 0900, 4973, 5456, 6767, 8898, 9050, 7351, 4942, 5433  
(b) Write short note on - [8]  
(i) msge sort  
(ii) Heap.



**3E2076**

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**3E2076**  
**B. Tech. III Sem. (Main/Back) 2008-09 Scheme**  
**Exam. Feb. 2014**  
**Computer Engg. & Information Tech.**  
**3IT6.1 & 3CS6.1 Optical Communication**

**Time: 3 Hours****Maximum Marks: 80****Min. Passing Marks: 24***Instructions to Candidates:-*

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2. \_\_\_\_\_

**UNIT-I**

Q.1 (a) Define Mode-field diameter. Also explain what is the necessity of cladding for an optical fiber. [8+8]

(b) Explain various Optical fiber modes and configurations in detail

**OR**

Q.1 What is Attenuation? Explain in detail about various attenuation losses. Also describe Monomode and multimode fibers. [16]

## UNIT-II

- Q.2 (a) Give three reasons why photodiodes are operated at reverse bias for detection in optical communication systems
- (b) Differentiate between LED and laser diodes. [8+8]

OR

- Q.2 (a) Discuss coupled cavity semiconductor lasers and tunable semiconductor lasers in Detail.
- (b) Explain the characteristics of LED's and Laser diodes. [8+8]

## UNIT-III

- Q.3 Explain and differentiate PIN and Avalanche photo diodes in detail. Also describe photo detector. [16]

OR

- Q.3 (a) What is responsivity and how it depends on the wavelength of a photodiode? Explain in detail.
- (b) What is the responsivity of a photo diode if its quantum efficiency is 90%. [10+6]

**UNIT-IV**

Q.4 (a) What is WDM and list the reasons for its development as a major Communication technology.

(b) Explain fiber splicing in detail. [8+8]

**OR**

Q.4 Write short notes on

(a) Source to fiber coupling

(b) fiber to fiber joints [8+8]

**UNIT-V**

Q.5 (a) What is the significance of numerical aperture? Explain in detail.

(b) Define and explain dispersion in optical fiber. [10+6]

**OR**

Q.5 (a) For a step index fiber with a core refractive index  $n_1=1.47$  and cladding refractive index  $n_2=1.465$  Calculate

(i) The critical angle

(ii) The numerical aperture

(iii) The range of the propagation velocity along the fiber

(b) Write short note on measurements of Fiber attenuation. [9+7]

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<b>3E2078</b>	Roll No. _____	Total No of Pages: <span style="border: 1px solid black; padding: 2px;">3</span>
<p><b>3E2078</b></p> <p><b>B. Tech. III Sem. (Main/Back) Examination Feb. 2014</b></p> <p><b>Computer Engg. &amp; Information Tech.</b></p> <p><b>3IT6.2 &amp; 3CS6.3 Management Information System</b></p>		

**Time: 3 Hours**

**Maximum Marks: 80**

**Min. Passing Marks: 24**

*Instructions to Candidates:-*

*Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.*

*Use of following supporting material is permitted during examination.  
(Mentioned in form No. 205)*

1. \_\_\_\_\_

2. \_\_\_\_\_

### UNIT-I

Q.1 Write Technical Note on:

- (a) MIS
- (b) Role of MIS in organization.
- (c) Management by Exception.
- (d) Management effectiveness & MIS.

[4×4]

**OR**

Q.1 Write Technical note on.

- (a) E - Business
- (b) E - Communication
- (c) E - Collaboration
- (d) Factors affecting security of information [4×4]

**UNIT-II**

- Q.2 (a) What is Decision making concept? Discuss relational Decision making & its problems. [2+6]
- (b) Discuss pay off analysis & Decision tree analysis in decision making. [4+4]

**OR**

- Q.2 (a) Enumerate attributes of information. Discuss methods to avoid misuse of information. [8]
- (b) What is business process & Business process re-engineering (BPR). Explore relationship between MIS & BPR. [8]

**UNIT-III**

Q.3 Discuss service management system in detail. [16]

**OR**

Q.3 Discuss role of MIS in

- (a) Financial management
- (b) Product management [4+4]



**UNIT-IV**

Q.4 Discuss applications of SAP technologies in manufacturing sector. Take a suitable case study for your Discussion. [16]

**OR**

Q.4 What is EMS? Enumerate & discuss in brief various components of EMS. Compare MIS & EMS. [16]

**UNIT-V**

Q.5 Write Technical note on:

(a) Electronic payment system (EPS)

(b) MIS in web environment

[8+8]

**OR**

Q.5 Write Technical note on:

(a) Concept & operational architecture of data ware house.

(b) Process flow of data ware house model.

[8+8]

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