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MOTIHARI COLLEGE OF ENGINEERING, MOTIHARI

Even Semester Session 2022-23 Mid Semester Exam

B. Tech. 4th Semester, C. S. E

Computer Architecture

Time: 2 Hrs. Maximum Marks 20

Section A

Q1. Attempt all questions: **(1X5 = 5 Marks)**

a	Discuss about role of control unit in computer.	CO1
b	What is the use of flags in microprocessor ?	CO1
c	What is instruction cycle and microinstructions ?	CO2
d	Differentiate software, hardware and firmware	CO1
e	What is pipelining in computer?	CO7

Section B

Q2-Q4 Attempt all questions: **(5X3 = 15 Marks)**

Q2	i)	Draw block diagram of CPU and discuss each component in details.	CO1
		OR	
	ii)	What is the addressing mode used in computer explain with example?	CO2
Q3	i)	What is fully associative cache? How set associative cache is removes the Disadvantages of direct mapped cache and fully associative cache?	CO3
		OR	
	ii)	If memory address are 5, 17, 64, 18, 26, 16, 68, 74, 80, 84, 92, 100, 64, 18, 26, 16 block size =8 byte, 2 way set associative cache and number of set in cache is 4, find the hit percentage and final content of cache. Also calculate average time of access when cache access time is 1 ms and memory access time is 100 ms.	CO3
Q4	i)	Differentiate between RISC and CISC. Discuss which is better.	CO2
		OR	
	ii)	Explain Booth algorithm for multiplication in detail for computer. Discuss how it is efficient.	CO2

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MOTIHARI COLLEGE OF ENGINEERING, MOTIHARI

Four Semester Mid Semester Exam

B. Tech. 4th Semester, Computer Science Engineering.

Human resource development and organisational behavior.

Time: 2 Hrs. Maximum Marks 20

Section A

Q1. Attempt all questions: **(1X5 = 5 Marks)**

a Define performance appraisal?

b Define Halo effect?

c What is Horns effect?

d Define Human resource development?

e What is Red employment?

Section B

Q2-Q4 Attempt all questions: **(5X3 = 15 Marks)**

Q2 i) The subject HRDOB is oxygen for engineers. Justify with case studies.

OR

i) An effective recruitment and selection process is linked to organisational growth. Explain.

Q3 i) Write in details internal and external sources of recruitment and selection.

OR

ii) Write short note on following:

a. Induction

b. Placement

Q4 i) What do you mean by rating error competency management? Described it's components to avoid during performance appraisal.

OR

ii) What do you mean by training and development? Justify it's types of trainings

MOTIHARI COLLEGE OF ENGINEERING, MOTIHARI

NameofExamination:	B.Tech Mid Semester Examination 2022		
Branch:	CSE	Semester:	IV
Subject Name:	Digital Electronics	Subject Code:	ESC 401
Time:	2 hours	Full Marks:	20

Instruction:

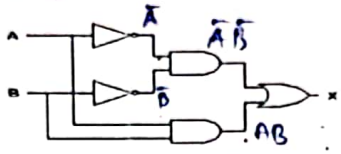
a. *Attempt four questions and Question 1 is compulsory.*
b. *Each question carries their marks.*
c. *The marks are indicated in the right-hand margin.*

Q1. Answer the followings questions, each question carries equal marks: **(1×5)** **(CO1)**

(a) In Boolean Algebra, (A.A') +A=---------

(b) Convert $(312)_8$ into decimal ---------- **(CO1)**

(c) Logic expressions output X of given fig. **(CO1)**



(d) What is digital comparator? **(CO2)**

(e) The 1's complement of 111000010101 is---------- **(CO2)**

Q2) **(a)** Convert Y=AB + AC' +BC into canonical SOP form. **(3Marks)** **(CO1)**

(b) Perform the following operations using 2's complement method. (i) 48-23(ii)23-48 **(2Marks)**

OR

(a) What is meant by multiplexer? Design 8x1 Multiplexer with logic circuit and truth table. **(3Marks)**

(b) Determine (i) multiplication 0011010 x 001100 (ii) Division 101010 / 000110 **(2Marks)**

Q3) **(a)** Make a K-map for the function. **(3Marks)** **(CO2)**

f=AB+AC'+C+AD+AB'C+ABC

(b) Express f in canonical SOP form. **(1Marks)**

(c) Minimize it and realize the minimized expression using NAND gates. **(1Marks)**

OR

What is combinational circuit? Differentiate between half adder and full adder with logic circuit and truth table.**(5Marks)**

Q4) What is sequential circuit? Describe about clock Signal and triggering. **(5Marks)** **(CO3)**

OR

What is Flip Flop? Describe S-R flip-flop with truth table with logic circuit. **(5Marks)**

Signal types ..... xxxxx .....

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MOTIHARI COLLEGE OF ENGINEERING, MOTIHARI

Fourth Semester Session 2021-22 Mid Semester Exam

B. Tech. 4th Semester, Computer Science & Engineering

Operating Systems (Code - 105403)

Time: 2 Hrs. Maximum Marks 20

Section A

Q1. Attempt all questions: **(1x5 = 5 Marks)**

a. Define Operating System and Process.

b. Draw the storage-device hierarchy according to memory access time.

c. Define PCB and its role in Operating System.

d. Identify advantages and disadvantages of open source Operating System.

e. What is the role of critical section in synchronization ? What are the major requirements of a solution of critical section problem ?

Section B

Q2-Q4 Attempt all questions [either (i) or (ii)]: **(5x3 = 15 Marks)**

Q2 i) Define the essential properties of Operating System for: [5]

(a.) Time Sharing System

(b.) Distributed System

OR

ii) Consider the following set of processes with the length of the CPU burst time given in milliseconds:

Process	Burst Time (ms)	Arrival time
P1	10	0
P2	1	0
P3	2	0
P4	1	0
P5	5	0

TAT = 9
WT = 3.2 } Ans.