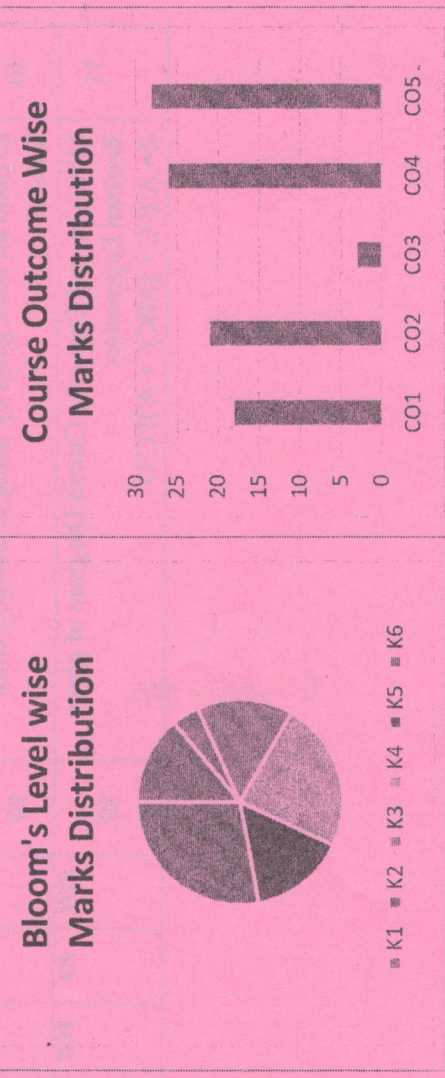
 ARKAJAIN University Jharkhand	END TERM EXAMINATION School of Engineering & IT	
	Branch: CS & IT	Program: BCA
Subject Name: Introduction to Computer Science	Semester: 1st	Year: 2023/Odd
Time: 3 Hour Max. Marks : 70	• Start writing from 2nd page onwards; don't Write on the 1st Page Backside • Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Three out of Five of Section C • Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Papers.</u>	
Knowledge Level (KL)	K1 : Remembering K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 01 Marks from Q1-i to Q1-xii) – 12 Marks		Q.N1	QUESTIONS	Marks	COs	KL	PO
i	Using Boolean Expression minimize the given equation: $AB + A(B+C) + B(B+C)$ a) $AC+B$ c) $A + BC + CA$	1	b) $AB + BC + CA$ d) None of these	CO2	K4	PO6	
ii	Convert hexadecimal to decimal: (1E2)H: a) 480 c) 482	1	b) 483 d) 484	CO1	K2	PO2	
iii	What is the 1's complement of 10011? a) 11010 c) 00110	1	b) 11011 d) 0111	CO1, CO2	K4	PO3	
iv	The expression for Absorption law is given by a) $A + AB = A$ c) $AB + AA' = A$	1	b) $A + AB = B$ d) $A + B = B + A$	CO1	K1	PO4	
v	The two digits hexadecimal number which has largest value is ___ which corresponds to a) FE, 255 decimal c) FF, 255 decimal	1	b) FF, 254 decimal d) EF, 245 decimal	CO2	K1	PO1	
vi	The 1's complement of 1111111110.101 is a) 1.010	1	b) 0000000000.010	CO1	K2	PO2	

CO- Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Bridge the fundamental concepts of computers with the present level of knowledge of the student	
CO2	Familiarize Operating Systems, Programming languages, peripheral devices and internet.	
CO3	Assemble a PC	
CO4	Protect information and computers from basic abuses/attacks.	
CO5	Connect it to external devices, write documents.	
CO6	Create worksheets, prepare presentations	



6	What is Software? Classify & Explain. How is it different from Hardware?	7	CO2	K3	PO1 1
7	Write short notes on: a) Instruction Set b) Instruction Format c) CPU	7	CO1	K2	PO2
Section C (Answer any THREE out of FOUR) - 30 Marks- (Each question Carry 10 Marks)					
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Discuss different kinds of operating systems with required diagrams.	10	CO2	K1	PO1 0
9	Explain the different kinds of Network Topologies with neat and clean diagrams.	10	CO1 CO4	K1	PO2
10	Explain all basic gates by using symbols & truth tables.	10	CO1	K2	PO5
11	Minimize and Draw the Circuit Diagram of given Boolean Expression: $Z = A'B'C + (ABC)' + A'B'C'D$	10	CO1	K3	PO7

vii	c) 111111110.101 d) 1.101 The boolean function $A + BC$ can also be expressed as _____ a) $AB + BC$ b) $(A + B)(A + C)$ c) $A'B + AB'C$ d) $(A + C)B$	1	CO1	K1	PO6
viii	DeMorgan's theorem states that _____ a) $(AB)' = A' + B'$ b) $(A + B)' = A' * B$ c) $A' + B' = A'B'$ d) $(AB)' = A' + B$	1	CO1 CO2	K2	PO2
ix	Complement of the expression $A'B + CD'$ is _____ a) $(A' + B)(C' + D)$ b) $(A + B')(C' + D)$ c) $(A' + B)(C' + D)$ d) $(A + B')(C + D')$	1	CO1 CO2	K4	PO3
x	Internet works on _____ a) packet switching b) circuit switching c) both packet switching and circuit switching d) data switching	1	CO2	K1	PO5
xi	According to boolean law: $A + 1 = ?$ a) 1 b) A c) 0 d) A'	1	CO1	K2	PO7
xii	ENIAC uses _____ a) Decimal Numbering System b) Octal Numbering System c) Binary Numbering System d) Hexadecimal Numbering System	1	CO1		PO1 0
Section B (Answer any FOUR out of SIX) - 28 Marks (Each question Carry 7 Marks)					
Q.No.	QUESTIONS	Marks	COs	KL	PO
2	Perform these by using 2's complements a) -17+22 b) 17-22	7	CO1	K3	PO7
3	What is Data Communication? Draw and explain with the required block diagram.	7	CO1 CO4	K1	PO5
4	Discuss the generation of computer programming Languages with examples.	7	CO1 CO2	K1	PO1 2
5	What is Multiplexing? Classify and discuss with the proper diagram.	7	CO1 CO2	K4	PO3