

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BCA
BRANCH: BCA**

**SEMESTER : I
SESSION : MO/2023**

SUBJECT: CN107 FUNDAMENTALS OF COMPUTER SCIENCE

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Discuss classification of computer with examples.	[5]	1 1
Q.1(b)	What do you understand by computer software? Explain different types of computer software.	[5]	1 1,2
Q.2(a)	Define Modern Operating Systems. Explain the functions of an Operating Systems.	[5]	2 1
Q.2(b)	Define Pseudo code, Flowchart and Algorithm. Create an algorithm and a flowchart that will output the Fibonacci series up to a given number.	[5]	2 3,6
Q.3(a)	Perform the following operations: (i) Convert from Hexadecimal to Octal: $(ADC7)_{16} = (?)_8$ (ii) Convert from decimal to binary: $(249.625)_{10} = (?)_2$ (iii) Subtract using 2's complement: $111100011 - 001110001$	[5]	3 3,5
Q.3(b)	Simplify the Boolean function $X = A'B' + AB + A'B$. Create truth table and logic circuit diagram for simplified Boolean function.	[5]	3 4,5
Q.4(a)	Define printer. Explain types of Printers in details.	[5]	4 1
Q.4(b)	What do you mean by pointing device? Explain different types of pointing devices.	[5]	4 1.2
Q.5(a)	Explain different parts of CPU with diagram.	[5]	5 2
Q.5(b)	What do you mean by computer memory? Differentiate between primary and secondary memory.	[5]	5 2,3

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