U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

August 2024 Semester End Main Examinations

Programme: B.E. **Semester: IV**
Branch: Industrial Engg & Management **Duration: 3 hrs**
Course Code: 23IM4PCFPT **Max Marks: 100**
Course: Fundamentals of Programming Tools

Instructions: 1.Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may suitably be assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			CO	PO	Marks
		UNIT - I			
1.	a)	What are the various tasks that an Industrial Engineers performs in his field? Demonstrate how Programming is important	2	1	**10**
	b)	Illustrate the applications of sensors in the field of Industrial Engineering. How can an Industrial Engineer explore the possibility of improvement in his role?	2	1	**10**
		OR			
2.	a)	Justify the need for using algorithms in a Programming Language?	2	1	**06**
	b)	Illustrate with examples the use of the following sensors applicable to Industrial Engineering. Vision and Imaging Sensors, Temperature Sensors, Radiation Sensors, Proximity Sensors	2	1	**14**
		UNIT – II			
3.	a)	Explain the features and syntax of a digital read and digital write of the Arduino board.	2	1	**10**
	b)	List and explain the three sections of an Arduino IDE	1	1	**10**
		UNIT - III			
4.	a)	Explain the technical features of DietPi and LIBREELEC OS which are used in Raspberry PI?	2	1	**10**
	b)	What makes up an Raspberry PI Model A Explain	2	1	**10**
		UNIT - IV			
5.	a)	Discuss the advantages of the Python programming language?	1	1	**10**

		b)	Demonstrate the utility of Artihematic Operators and strings with a code snippet in Python. Illustrate the different types of variables used in Python	2	1	**10**
			UNIT - V			
	6	a)	Write a flow chart for finding the solution of a given equation using Bisection method	3	2	**08**
		b)	Arrive at the root of the equation $2x^3-2x-5=0$ using the False Position method.	3	2	**12**
			OR			
	7.	a)	Write a Programe Demonstrating the Newton Raphson method in Python.	3	2	**10**
		b)	Find out the negative root estimate of the function $f(x)= X^3-4x+1$ using the graphical method.	3	2	**10**

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