U.S.N.										

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

Autonomous Institute Affiliated to VTU

October 2024 Supplementary Examinations

Programme: B.E. **Semester: IV**
Branch: Industrial Engineering & Management **Duration: 3 hrs**
Course Code: 23IM4DCFPT **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 blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

			CO	PO	Marks
		UNIT – I			
1.	a)	Why must Industrial Engineers understand the programming concepts? Justify the need for improving efficiency	*2*	*1*	**10**
	b)	Demonstrate with a neat block diagram the solution engineering process. Justify how it helps Industrial Engineers	*2*	*1*	**10**
		OR			
2.	a)	What are the roles of a Solution Architect explain?	*2*	*1*	**10**
	b)	Explain the use of a position sensor and temperature sensor applicable to Industrial Engineering practices.	*2*	*1*	**10**
		UNIT – II			
3.	a)	Explain the technique for fading an LED using Pulse Width Modulation (PWM)	*2*	*1*	**12**
	b)	List and explain the three sections of an Arduino IDE	*2*	*1*	**08**
		UNIT - III			
4.	a)	What are the various components of a Basic Structure of Credit card PC, explain with a neat diagram	*2*	*1*	**10**
	b)	List and explain the typical features of Raspberry PI Model A	*2*	*1*	**10**
		UNIT - IV			
5.	a)	Discuss the advantages of the Python programming language?	*3*	*2*	**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 program for finding if the Fibonacci series up to 30 terms	*3*	*2*	**10**
		b)	Arrive at the root of the equation $2x^3-2x-5=0$ using the False Position method.	*3*	*2*	**10**
			OR			
	7.	a)	Write a Program 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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