A **Reg No.:** | | | | | | | | | | |

Question Paper Code: 57303

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

Elective

Electrical and Electronics Engineering

15UEE916- EMBEDDED SYSTEMS

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which of the following tools can replace floating-point arithmetic with fixed-point arithmetic? CO1- R

   (a) FAT (b) SDS (c) FRIDGE (d) VFAT

2. An embedded system is a combination of _____ CO1- R

   (a) Software (b) Hardware (c) Both a and b (d) Devices

3. Which provides the library interface to allow C programs to call standard I/O functions? CO2- R

   (a) RTL (b) TNX (c) IFX (d) MPV

4. Which assembler option is used to turn off long or short address optimization? CO2- R

   (a) -n (b)-v (c)-m (d) -o

5. The macros specifies in source code are expanded by CO3- R

   (a) preprocessor (b)assembler (c)compiler (d) linker

6. Who developed the OS-9? CO3- R

   (a) Microwave (b) Microwave and Motorola

   (c) Motorola and IBM (d) Microwave and IBM

7. What does WCTE stand for? CO4- R

   (a) wait case execution time (b)wait case encoder time

   (c)worst case execution time (d) worst code execution time

8. Which estimate approach takes more time to consume? CO4- R

(a) accurate value (b) estimated value

(c) accurate cost and performance value (d) estimated cost and performance value

9. Who developed Python Programming Language? CO5- R

(a) Wick van Rossum (b) RasmusLerdorf

(c) Guido van Rossum (d) NieneStom

10. Which of the following is the correct extension of the Python file? CO5- R

(a) .python (b).pl (c).py (d) .p

PART – B (5 x 2= 10 Marks)

11. Explain in detail about types of float. CO1- U

12. In what ways, RISC and CISC processors get differ. CO2- U

13. What are the User function calls used embedded system in c? CO3- R

14. What are the 3 operating modes that should be implemented to achieve longer battery life of modern processors? CO4- R

15. Differentiate list and tuple. CO5- U

PART – C (5 x 16= 80Marks)

16. (a) Write a program to print "HELLO" in big block letters; each letter should have a height of seven characters and width of five characters. CO1-App (16)

Or

(b) Write the program to take a first name and a last name and combine the two strings. CO1-App (16)

17. (a) Describe in detail about Synchronous, ISO-Synchronous and Asynchronous communication for serial device.. CO2- U (8)

Or

(b) Explain the RTOS programming tool Micro C/OS-II. CO2- App (16)

18. (a) Write an Embedded C code to program the processor by which the number of goats passing a sensor was measured and displayed on a port. CO3- App (16)

Or

	(b)	Write an Embedded C code for a simple example which illustrates how we can read from one port on an 8051 microcontroller and 'echo' the result on another port.	CO3- U	(16)
19.	(a)	Write an Embedded C code for the framework of an application using a timer ISR to call functions on a periodic basis	CO4- App	(16)
		Or		
	(b)	Write an Embedded C code to generate a delay of 50 ms	CO4- App	(16)
20.	(a)	Illustrate a program to display different data types using variables and literals constants.	CO5- U	(16)
		Or		
	(b)	Show how an input and output function is performed in Python with an example.	CO5- U	(16)