Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Science

End Sem (Odd) Examination Dec-2022

FS3EG01 Computer Science

Programme: B.Sc.(Hons.) Branch/Specialisation: Forensic Science

Duration: 3 Hrs. **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1 i. The generation based on VLSI microprocessor. **1**

(a) 1st (b) 2nd (c) 3rd (d) 4th

ii. Which input device is used for input text, numbers, and commands to the computer? **1**

(a) Mouse (b) Keyboard (c) Scanner (d) All of these

iii. The given hexadecimal number $(1E.53)_{16}$ is equivalent to _____. **1**

(a) $(35.684)_8$ (b) $(36.246)_8$ (c) $(34.340)_8$ (d) $(35.599)_8$

iv. Which of the following is not a positional number system? **1**

(a) Roman number system

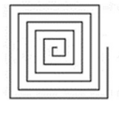
(b) Octal number system

(c) Binary number system

(d) Hexadecimal number system

v. Which of the following correctly represents the track pattern of an optical disk? **1**

(a)  (b) 

(c)  (d) 

vi. Which of the following correctly represents the track pattern of an optical disk? **1**

(a) Read/write head (b) Read head

(c) CPU head (d) Monitor

P.T.O.

vii. An Identifier can start with- **1**
(a) Alphabet
(b) Underscore (_) sign
(c) Both (a) and (b)
(d) Any character that can be typed on a keyboard

viii. Find a Floating-Point constant- **1**
(a) 12.3E5 (b) 12e34 (c) 125.34857 (d) All of these

ix. The size specifier in the array declaration must be- **1**
(a) An expression
(b) A constant expression
(c) A constant expression of integral type
(d) A constant expression of integral type having a value greater than zero.

x. Arrays are used to store the elements of- **1**
(a) The same type (b) Multiple types
(c) Different types (d) None of these

Q.2 i. Define a computer based on the Von Neumann model. **2**
ii. What are the three subsystems that make up a computer? **3**
iii. Explain the working of CRT monitor. **5**
OR iv. Explain the working of impact printers. **5**

Q.3 i. How to convert from binary to hexadecimal? **2**
ii. What is the difference between 1's Complement representation and 2's Complement representation techniques? Explain with suitable examples. **8**
OR iii. Complete the following table. Calculate all values to four places after the radix point. **8**

Decimal	Binary	Hexadecimal	Octal
27			
	111001.11		
		27	
			27

Q.4 i. What is the difference between primary and secondary memory? **3**
ii. What is magnetic memory? Explain the working of Hard disk. **7**

OR iii. What is optical memory? Explain the read/write process of CD. **7**

Q.5 i. What is the difference between declaration and definition of a variable? **3**
ii. Write a program to check whether a given number is an Armstrong number or not. **7**
OR iii. Write a program to calculate the roots of a quadratic equation. **7**

Q.6 Attempt any two:
i. What do you mean by function? Explain the function declaration, function definition, and function calling in C programming. **5**
ii. What is an array? Explain the need of array. **5**
iii. Why we use recursion? Explain with the help of suitable example. **5**

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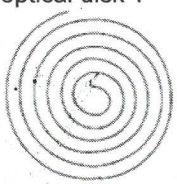
Scheme of Marking

MEDI-CAPS UNIVERSITY Knowledge is Power	Faculty of Science End Sem (Odd) Examination, Dec-2022 Computer Science FS3EG01
	Programme: B.Sc. | Branch/Specialisation:

Note: The Paper Setter should provide the answer wise splitting of the marks in the scheme below.

Q.1	i)	The generation based on VLSI microprocessor. d) 4th	1
	ii)	Which input device is used for input text, numbers, and commands to the computer? b) Keyboard	1
	iii)	The given hexadecimal number $(1E.53)_{16}$ is equivalent to _____ b) $(36.246)_8$	1
	iv)	Which of the following is not a positional number system? a) Roman Number System	1
	v)	Which of the following correctly represents the track pattern of an optical disk ?  a)	1
	vi)	Which of the following correctly represents the track pattern of an optical disk ? a) read/write head Award 1 marks to each.	1
	vii)	An Identifier can start with? d) Option a & Option b	1
	viii)	Find a Floating-Point constant. d) All the above.	1
	ix)	The size specifier in the array declaration must be d). A constant expression of integral type having a value greater than zero	1
	x)	Arrays are used to store the elements of a). The same type	1

Q.2	i.	Define a computer based on the von Neumann model.	2
	ii.	What are the three subsystems that make up a computer? Explain of each three types -3	3
	iii.	Explain the working of CRT monitor. CRT monitor working -3 Raster scanning system -1 Diagram impact -1	5
OR	iv.	Explain the working of laser printer. Impact printers working -4 Diagram -1	5
Q.3	i.	How to convert from binary to hexadecimal? Explain conversion process -2	2
	ii.	What is the difference between 1's Complement representation and 2's Complement representation techniques? Explain with suitable examples. 1's Complement -3 1's Complement -3 Examples -2	8
OR	iii.	Complete the following table. Calculate all values to four places after the radix point.	8

Decimal	Binary	Hexadecimal	Octal
27	11011	1b	33
57.75	111001.11	39.C	71.6
39	10011	27	47
23	10111	17	27

Q.4	i.	What is the difference between primary and secondary memory? Primary memory -1 Secondary memory -1 Examples -1	3
	ii.	What is magnetic memory? Explain the working of Hard disk. Magnetic memory -2 Working of Hard disk – 4 Diagram -1	7
OR	iii.	What is optical memory? Explain the read/write process of CD. Optical memory -2 Working of CD – 4 Diagram -1	7

Q.5	i.	What is the difference between declaration and definition of a variable? difference – 3	3
	ii.	Write a program to check whether a given number is an Armstrong number or not.	7
OR	iii.	Write a program to calculate the roots of a quadratic equation.	7
Q.6			
	i.	What do you mean by function? Explain the function declaration, function definition, and function calling in C programming. Definition -1 Function declaration -1 function definition -1 function calling -1 example -1	5
	ii.	What is an array? Explain the need of array with the help of an example. Definition -1 Array working -2 Example -2	5
	iii.	Why we use recursion? Explain with the help of suitable example. Recursion use -3 Example -2	5

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