

University of Mumbai
Examination Second Half 2021 under cluster 06
(Lead College: Vidyavardhini's College of Engg Tech)
Examinations Commencing from 22nd November 2021 to 5th January 2022

Program: **Electronics Engineering**

Curriculum Scheme: Rev-2019

Examination: TE Semester: V

Course Code: ELDO501 Course Name: Computer Organization and Architecture

Time: 2 hour 30 minutes

Max. Marks: 80

=====

=====

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Which of the following Special purpose register holds the address of next instructions to be executed?
Option A:	Program Counter
Option B:	Instruction Register
Option C:	MAR
Option D:	Base Register
2.	Booth's Multiplier
Option A:	reduces the number of partial products
Option B:	increases the number of partial products
Option C:	multiplies the number of partial products
Option D:	divides the partial products
3.	Bias value for single precision and double precision representation is &
Option A:	128, 1024
Option B:	127 , 1023
Option C:	256, 512
Option D:	32, 64
4.	A set of microinstructions for a single machine instruction is called
Option A:	Program
Option B:	Command
Option C:	Micro program
Option D:	Micro command
5.	Full form of MFLOPS is _____
Option A:	Millions of Fixed Point Operations Per Second
Option B:	Millions of Floating Point Operations Per Second
Option C:	Millions of Floating Point Opcodes Per Second
Option D:	Millions of Flip/Flops Operations Per Second
6.	A micro-programmed control unit
Option A:	faster than a hard-wired control unit
Option B:	facilitates easy implementation of new instructions
Option C:	useful when very small programs are to be run
Option D:	usually refers to the control unit of microprocessor.

7.	How many 128 X 8 RAM chips are needed to provide a memory capacity of 2048 bytes?
Option A:	8
Option B:	16
Option C:	2
Option D:	4
8.	Which of the following is not a write policy to avoid Cache Coherence?
Option A:	Write through
Option B:	Write within
Option C:	Write back
Option D:	Buffered write
9.	Which algorithm chooses the page that has not been used for the longest period of time whenever the page required to be replaced?
Option A:	First in first out algorithm
Option B:	Additional reference bit algorithm
Option C:	Least recently used algorithm
Option D:	Counting based page replacement algorithm
10.	What are the five main components of a computer system
Option A:	CPU,CD-ROM,Mouse,Keyboard,Sound Card
Option B:	Memory ,Video card,Monitor,Software,Hardware
Option C:	Modem,Keyboard,Word Processor,Printer,Screen
Option D:	CPU,Memory ,System bus ,Input,Output

Q2	Solve any Two Questions out of Three (10 marks each)
A	Discuss system buses in detail. Highlight PCI bus and its operation in detail.
B	Discuss Hardwired and Micro-programmed Control unit in detail.
C	Write short notes on GPU.

Q3	Solve any Two Questions out of Three (10 marks each)
A	Discuss parallel processing and pipelining in detail.
B	Explain Flynn's classification in detail with suitable diagrams.
C	Discuss I/O handling techniques. (any two techniques)

Q4	Solve any Two Questions out of Three (10 marks each)
A	Find out page fault for the following string using FIFO and LRU method. Consider the frame size to be 3. 6 0 12 0 30 4 2 30 32 1 20 15
B	Draw flowchart for Booth's multiplication for unsigned numbers and perform (11) x (-7)
C	Write short notes on page replacement.