

(FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2023 ONLY)

(NO. OF PAGES: 2)
SUBJECT CODE **23UIT102**
REG.NO. :

N.G.M. COLLEGE (AUTONOMOUS), POLLACHI
END-OF-SEMESTER EXAMINATIONS: NOVEMBER-2023
B.Sc-INFORMATION TECHNOLOGY **MAXIMUM MARKS: 75**
SEMESTER 1 **TIME : 3 HOURS**

PART - III

23UIT102 –COMPUTER SYSTEM ARCHITECTURE

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS. (K1)

1. NAND and NOR gates are also called as _____
a) Basic Gates b) Logic Gates c) Universal Gates d) Inter Gates
2. Computers that have a single-processor register called _____ and label it AC. The operation is performed with the memory operand and the content of AC.
a) Program Counter b) Accumulator c) Switch d) Register.
3. There is one register in the computer called _____ that keeps track of the instructions in the program stored in memory.
a) Program Counter b) Register c) Stack d) Queue.
4. The unit receiving the data item responds with another control signal to acknowledge receipt of the data. This type of agreement between two independent units is referred to as _____
a) Handshaking b) Direct Access (DC) c) Strobe d) Stack
5. _____ is a special very-high-speed memory used to increase the speed of processing by making current programs and data available to the CPU at a rapid rate.
a) Auxiliary Memory b) Cache Memory
c) Main Memory d) Associative Memory

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. Draw the Logic Diagram of AND gate with Truth Table
7. What is meant by Immediate Addressing Mode?
8. Define Stack.
9. What do you mean by DMA?
10. Define Associative Memory.

SECTION – B (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Convert the following Decimal Numbers to Binary Numbers.
i) 63_{10} ii) 118_{10}

(OR)

(COND..2)

- b) Describe in detail about Map Simplification for Two and Three Variable Map Methods.
12. a) Describe the Instruction Codes.
(OR)
b) Narrate in detail about Computer Registers.
13. a) Brief about Program Control Instructions.
(OR)
b) Describe in detail about Instruction Formats.
14. a) Describe in detail about Peripheral Devices.
(OR)
b) Explain in detail about Asynchronous Data Transfer
15. a) Describe in detail about Main Memory
(OR)
b) Outline in detail about Auxiliary Memory

SECTION – C**(5 X 8 = 40 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4/K5)**

16. a) Discuss in detail about Number systems and convert the following
Binary to Hexadecimal
i) 1001 1010 1111 1011
Hexadecimal to Binary
ii) FA82

(OR)

- b) Summarise the various types of Logic Gates with block diagram.
17. a) Elaborate in detail about Instruction Cycle.
(OR)
b) Discuss in detail about Input -Output and Interrupts.
18. a) Describe in detail about Stack Organisation .
(OR)
b) Outline in detail about General Register Organization with a block diagram
19. a) Discuss in detail about DMA Controller.
(OR)
b) Interpret in detail about Input – Output Interface
20. a) Outline in detail about Cache Memory.
(OR)
b) Discuss in detail about Virtual Memory.
