



# BRAINWARE UNIVERSITY

Course – BAMW

Computer Fundamentals and Computer Graphics (BMWC101)

(Semester – 1)

**Time allotted: 3 Hours**

**Full Marks : 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

## Group –A

(Multiple Choice Type Question)

1 x 10 = 10

1. Answer **any ten** questions.

I. The base of a number system

a) Is variable b) Has nothing to do with digit position value c) Equals the number of its distinct counting digits d) Is always an even number

II. A light sensitive device that converts drawing, printed text or other images into digital form is..

a) Scanner b) Plotter c) Keyboard d) Mouse

III. The basic architecture of computer was developed by

a) Blaise Pascal b) Charles Babbage c) John Von Neumann d) Garden Moore

IV. In order to tell Excel that we are entering a formula in cell, we must begin with an operator such as....

a) + b) = c) @ d) &

V. In how many generations a computer can be classified?

a) 6 b) 5 c) 4 d) 3

VI. Fifth generation computers are based on..

a) VLSI b) System Knowledge c) Programming Intelligence d) Artificial Intelligence

VII. The 2's complement of 11101 is....

a) 11 b) 00000 c) 11111 d) 1000

VIII. Which of the following memory is non-volatile?

- a) SRAM b) DRAM c) ROM d) RAM

IX. The maximum number of points that can be displayed without overlap on a CRT is referred as

- a) Picture b) Resolution c) Persistence d) Neither b nor c

X. Aspect ratio means.....

- a) Number of pixels b) Ratio of vertical points to horizontal points c) Ratio of horizontal points to vertical points d) Both b and c

XI. The primary output device in a graphics system is \_\_\_\_\_

- a) Scanner b) Video monitor c) Printer d) None of these

### Group – B

(Short Answer Type Question)

3 x 5 = 15

[Answer any three]

2. Explain the difference between hardware and software
3. Add the following hexadecimal numbers: (8D+DF+BF+FA+AB+EE).
4. Add the following octal numbers:(33+15+42+22+37+20).
5. Illustrate CMYK Color Model.
6. Explain the difference between primary color and secondary color with example.

### Group – C

(Long Answer Type Question)

3 x 15 = 45

[Answer any three]

7. a) What is computer? 2
- b) Explain the functionality of monochrome CRT.. 7
- c) What do you mean by Color Model? What is the difference between Additive Color Model and Subtractive Color Model? 2+4

8. 5 X 3
- a) Convert  $(11101.0100)_2 = (?)_{10}$
- b) Convert  $(429)_{10} = (?)_8$
- c) Convert  $(574)_{10} = (?)_{16}$
- d) Convert  $(54)_8 = (?)_{10}$
- e) Convert  $(BAC)_{16} = (?)_{10}$
- 9.a) “A monitor having refresh rate 85 Hz” —what does it mean? 2
- b) What is horizontal scan rate and monitor size? 3
- c) A monitor has a pixel addressability of 1200 X 940 and a color depth of 24 bits. Calculate the minimum amount ( in MB) of display memory required on its adapter card to display an image. 5
- d) A 21 inch monitor with an aspect ratio of 6 : 4 has a pixel addressability of 900 X 600. Calculate the resolution and dot-pitch. 5
10. a) Explain the term “Interlacing” 2
- b) Describe the difference between CRT and LCD. 3
- c) A monitor can display 4 shades of red, 8 shades of blue and 16 shades of green. Find out the color depth supported by the monitor. 6
- d) Find out the relation between “pixel addressability” and “resolution” 4
11. Write short notes on any three 3 x 5
- a) Raster Scanning
- b) ALU and Register
- c) RGB vs. CMYK
- d) UNIX Operating System
- e) Number System