C 80184 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCBCSS—UG)

Computer Science

BCS 6B 16 (D)—COMPUTER GRAPHICS

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*

Each question carries 1 *mark.*

1. Name the method used in the design of buildings, aircraft and textiles.
2. What is the range of persistence of phosphors in graphics monitors ?
3. Name the scan conversion line algorithm based on calculating either Δy *or* Δx.
4. Which is the transformation that alter the co-ordinate description of objects ?
5. What is the transformation that produces a mirror image of an object ?
6. Which operations can be expressed as sequences of basic transformations ?
7. What is called as world co-ordinate area ?
8. Name the region against which an object is to be clipped.
9. Which one has highest frequency in Electromagnetic spectrum ?
10. "*Frequency is constant for all materials*", State if it is True *or* False.

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*

Each question carries 3 *marks.*

11. Define Presentation graphics ?
12. Write a short note on symmetry of a circle.
13. Define Translation. What are shift vectors ?

Turn over

14. Define Workstation transformation.

15. Distinguish between Primary color and Secondary color.

(5 × 3 = 15 marks)

Part C

Answer any **five** *questions.*
Each question carries 5 *marks.*

16. Differentiate Persistence and Resolution.

17. Write a short note on Scan conversion line algorithm.

18. What are the basic geometric transformations ? Explain in brief.

19. Define Clipping. What are the different applications of clipping ?

20. Briefly describe YIQ color model.

21. What is GIMP ? How can it be used for modifying an image ?

22. Write a short note on LCD.

23. Briefly describe homogeneous co-ordinate system.

(5 × 5 = 25 marks)

Part D

Answer any **three** *questions.*
Each question carries 10 *marks.*

24. What are the different applications of Computer Graphics ? Explain.

25. Explain Bresenham's circle generating algorithm in detail.

26. Show that two successive reflections about any line passing through the co-ordinate origin is equivalent to a single rotation about the origin.

27. Explain Cohen Sutherland Line clipping algorithm.

28. Explain the two common color models defined with three primary colors.

(3 × 10 = 30 marks)