Form No. Ex- 8

Particulars about the candidate and the subject are checked thoroughly and corrected where necessary.

Sl. No..... 555

CENTRE ROLL:.....

Signature of Officer-in-Charge

Invigilator

KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

BCA 5th Semester Examination 2014

Course : 17

(Interactive Computer Graphics)

Enrolment Number | | | | | | | | | | | | **Year** |

Medium of Answer :

INSTRUCTIONS TO CANDIDATES

1. This booklet contains...20..... Pages numbering..19.....
2. An Examinee is allowed to bring only Admission Card and Identity Card to the Examination Hall. Any Examinee found in possession of loose papers, books etc. is liable to be Expelled.
3. Enrolment No. and Medium of answer must be written legibly at the specified places. Examinee's name and any other identifying mark which reveals examinees identity shall not be written anywhere in the script.
4. For Making calculations, only the last page provided for rough work shall be used.
5. No pages of the script be torn out .
6. Calculators will not be allowed for making calculations in the examination hall. ***MOBILE PHONES are strictly prohibited in the examination Centre.***
7. No candidate will be allowed to leave or go out of the hall during the First hour of the Examination.
8. A candidate having completed his/her answer, the script must be handed over, to an invigilator before leaving the hall.
9. Contravention of any of the instructions mentioned above shall render a candidate liable for disciplinary action as per regulations of the University.

Question No.	Marks
Total=	

Examiner's Signature_____

Scrutiniser's Signature_____

Head Examiner's Signature:_____

BCA 5th Semester Examination 2014
Course : 17
(Interactive Computer Graphics)

Time : 3 Hrs. Full Marks : 80

1. Answer the following questions : 1×8 = 8

(a) What is a pinel?

(b) What do you mean by GUI?

(c) What is resolution?

(d) What is frame buffer?

(e) What is scan conversion?

(f) What is shear?

(g) What is translation?

(h) What is Morphing?

2. Answer the following questions : $2 \times 8 = 16$

(a) What are the advantages and disadvantages of liquid crystal displays (LCD)?

(b) What is the difference between raster scan displays and random scan displays?

(c) Why color models are used?

(d) How does the RGB color model works?

(e) What are the advantages of Bresenham's line drawing algorithm over the Digital Differential Analyser (DDA) algorithm?

(f) What are the two approaches in filling polygons?

(g) Why Homogeneous coordinate system is used for transformations in computer graphics?

(h) What is a storyboard?

3. Answer any five questions from the following : $4 \times 5 = 20$

(a) Draw an architecture of a random scan display system? What are its advantages?

(b) Describe the working principles of Plasma Panel displays.

(c) How do you carry out the test to check whether a point lies inside or outside a polygon? Describe the rules.

(d) What is rotation? Derive a rotation of a ^{0} point P about an angle θ^0 w.v.t. origin. Form the rotation equations and the matrix.

(e) What is projection? What are its different types? Describe with diagrams.

(f) Why do we require animation? Give two examples of the use of animation for learning.

(g) Write a short note on text clipping.

4. Answer any two questions from the following : $8 \times 2 = 16$

(a) What are the basic techniques for producing color displays? Describe each of the methods.

(b) Describe the DDA algorithm for generating a line in a raster scan system. Consider the line is having a positive slope.

(c) What are the principles of animation? For what purpose they are used?

5. Answer any two questions from the following : $10 \times 2 = 20$

(a) Discuss the Cohen-Sutherland line clipping Algorithm for clipping a line against rectangular window. 10

(b) Describe the methods of scan-line procedure for filling of polygon areas. 10

(c) Write short note (any two) $5 \times 2 = 10$

(i) Animation Principles

(ii) 2D Animation

(iii) Application of Computer Animation.