

DAYANANDA SAGAR COLLEGE OF ARTS SCIENCE AND COMMERCE

Shavige Malleshwara Hills, Kumaraswamy Layout, Bangalore-560098

Department of Computer Applications - MCA

Syllabus for Add On Course On

COMPUTER GRAPHICS

Total Teaching Hours: 30

Course Outcomes:

This course will enable students to

- **Understanding Graphics Systems:** Understand the basic components and architecture of graphics systems, including hardware and software components.
- **Mathematical Foundations:** Apply mathematical concepts such as geometry, linear algebra, and calculus in the context of computer graphics.
- **Algorithms and Techniques:** Understand and implement key algorithms and techniques used in computer graphics, including clipping, line drawing etc.

UNIT 1: Graphics Systems and Output Primitives

[10 Hours]

Application of computer graphics; Graphic software; Video display devices- Raster scan and random scan displays; CRT functioning - Factors affecting CRT; Raster scan system; Colour CRT monitors - Display processor with raster system; Raster co-ordinate system; Colour mapping - Instruction set and raster system applications; Line drawing methods-Direct, DDA and Bresenhams, line attributes, Circle drawing – Direct and midpoint circle drawing – ellipse drawing-Bresenhams ellipse algorithm-Area filling scanline area filling and character attributes.

UNIT 2: 2D-Transformation, Windowing and Clipping

[10 Hours]

Geometric transformation; Translation; Rotation; Scaling; Reflection and shear matrix representations; Homogeneous co-ordinates - Composite transformation - Raster methods for geometric transformations; Window and viewport; Clipping process - Point clipping, Line clipping, Text clipping, Line clipping techniques - Cohen Sutherland line clipping algorithm, Midpoint subdivision algorithm; Area clipping - Sutherland and Hodgman polygon clipping algorithm, Window to view port transformation.

UNIT 3: 3D Graphics

[10 Hours]

3D-Coordinate system; 3D-Display techniques; parallel projections, Perspective projections, Orthogonal projections; 3D-Transformations; Translation, Scaling, Rotation, Reflection; polygon surfaces, polygon tables; Octrees; Hidden surface removal; Depth buffer and scan line method Introduction to segments, functions for segmenting, display file, segment attributes, display file compilation.

Text Book

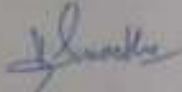
1. Pearson, Donald Hearn & M. Pauline Baker Computer Graphics OpenGL 2013

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Department of Computer Applications - MCA

Date: 08/02/2021.

Admission Notice For Add on Course Computer Graphics

This is to notify that department of Computer Application is offering add on course on Computer Graphics for first year MCA students and the course is going to begin from 15/02/2021. Interested students should give their names in the office before 13/02/2021.



Prof. Suneetha V, HOD
MCA, DSCASC

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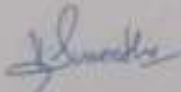
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Computer Graphics Add on Course

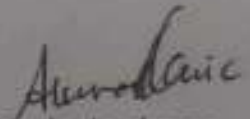
Date: 12/02/2021

Time Table

The Department of Computer application is conducting add on course on Computer Graphics and the course is going to start from 15/02/2021. The course will be engaged from Monday to Friday at 4 pm to 5pm.



Prof. Suneetha V, HOD
MCA, DSCASC



Faculty In-charge

DAYANANDA SAGAR COLLEGE OF ARTS SCIENCE AND COMMERCE

Shavige Malleshwara Hills, Kumaraswamy Layout, Bangalore-560048

Department of Computer Applications - MCA

Add On Course -COMPUTER GRAPHICS

Date: 15/02/2021

List of I semester MCA students enrolled for the course:

Sl No	Registration Number	Name
1.	20CQSAC002	AJAY KUMAR SHARMA
2.	20CQSAC003	AKSHAY B HADAPAD
3.	20CQSAC006	ANUP KUMAR GUPTA
4.	20CQSAC008	BHARATH KUMAR H D
5.	20CQSAC010	BINDU H M
6.	20CQSAC012	DEEPIKA G
7.	20CQSAC013	DESMOND DEV CHAANDER
8.	20CQSAC014	DEVARAJ
9.	20CQSAC015	DIVYA DARSHINI S
10.	20CQSAC017	GAUTAMA
11.	20CQSAC019	HARSHA NAIK
12.	20CQSAC022	KISHAN KUMAR THAKUR
13.	20CQSAC023	KRISHNA SWAROOP N J
14.	20CQSAC026	MANJUNATH S
15.	20CQSAC028	MITHUN M GOWDA
16.	20CQSAC029	MOHAMMED JUNAID A P
17.	20CQSAC032	NAGAVENI B
18.	20CQSAC033	NITHIN R
19.	20CQSAC034	PAVAN K P
20.	20CQSAC037	PRASANNAKUMAR K C
21.	20CQSAC039	PREETHY R
22.	20CQSAC041	RAKSHITH M
23.	20CQSAC042	RAKSHITH S
24.	20CQSAC044	S YATHESH
25.	20CQSAC045	SANJANA G
26.	20CQSAC047	SHASHIDHAR P B
27.	20CQSAC053	SUJAY KUMAR V
28.	20CQSAC055	THUSHITHA S R
29.	20CQSAC057	VANDHANA M

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Shavige Malleshwara Hills, Kumaraswamy Layout, Bangalore-560044

Department of Computer Application-MCA

Computer Graphics - Add on Course


I Semester MCA

Attendance

Sl NO	Register No	Name	8/2	14/2	19/2	25/2	29/2	31/2	25/1	26/1	01/3	02/3	05/3	06/3	05/3	08/3	9/3	10/3	10/3	11/3		
1.	20CCSAC002	AJAY KUMAR SHARMA	1	2	A	3	4	5	A	6	7	8	9	A	10	11	A	12	13	A	14	15
2.	20CCSAC003	AKSHAY B HADAPAD	1	A	2	3	4	A	5	6	A	7	8	9	10	A	11	12	A	13	14	15
3.	20CCSAC006	ANUP KUMAR GUPTA	1	2	3	4	A	5	6	A	7	8	9	A	10	11	A	12	13	14	A	15
4.	20CCSAC008	BHARATH KUMAR H D	1	2	A	3	4	5	A	6	7	8	9	A	10	11	12	13	A	14	15	A
5.	20CCSAC010	BINDU H M	1	2	A	3	4	A	6	7	8	A	9	10	A	11	12	A	13	14	A	15
6.	20CCSAC012	DEEPIKA G	1	2	3	4	A	5	6	7	A	8	9	10	A	11	12	13	A	14	15	A
7.	20CCSAC013	DESMOND DEV CHAANDER	A	1	2	3	A	4	5	6	A	7	8	A	9	10	11	A	12	13	14	15
8.	20CCSAC014	DEVARAJ	1	2	A	4	5	6	7	A	8	9	A	10	11	12	A	13	14	15	A	16
9.	20CCSAC015	DIVYA DARSHINI S	1	A	2	3	4	A	5	6	A	7	8	9	10	A	11	12	A	13	14	15

10.	20CQSAC017	GAUTAMA	A	1	2	A	3	4	5	A	6	A	7	8	9	10	A	11	12	13	A	14	
11.	20CQSAC019	HARSHA NAIK	1	2	A	3	4	5	A	6	7	A	8	9	10	A	11	12	13	14	15	16	
12.	20CQSAC022	KISHAN KUMAR THAKUR	1	2	3	4	A	5	6	7	8	9	10	A	11	12	13	A	14	15	16	A	
13.	20CQSAC023	KRISHNA SWAROOP N J	1	2	A	3	4	5	A	6	7	8	9	A	10	11	A	12	13	14	15	A	
14.	20CQSAC026	MANJUNATH S	A	1	2	3	4	5	A	6	7	8	A	9	10	A	11	12	13	14	A	15	
15.	20CQSAC028	MITHUN M GOWDA	1	A	2	3	4	5	A	6	7	8	9	10	A	11	12	13	14	A	15	16	
16.	20CQSAC029	MOHAMMED JUNAID A P	A	1	2	A	3	4	5	A	6	7	8	9	A	10	11	12	A	13	14	15	
17.	20CQSAC032	NAGAVENI B	1	2	3	A	4	5	6	7	8	A	9	10	11	A	12	13	14	15	A	16	
18.	20CQSAC033	NITHIN R	A	A	1	2	3	A	4	5	6	7	A	8	9	10	A	11	12	13	14	A	15
19.	20CQSAC034	PAVAN K P	1	2	3	A	4	5	6	A	7	8	9	10	11	A	12	13	14	15	16	A	
20.	20CQSAC037	PRASANNAKUMA R K C	1	A	2	3	4	A	5	6	7	8	9	A	10	11	12	13	A	14	15	16	
21.	20CQSAC039	PREETHY R	1	2	A	3	4	5	6	A	7	8	9	10	A	11	12	13	14	A	15	16	

22.	20CQSAC041	RAKSHITH M	A	1	2	A	3	4	5	6	7	A	8	9	10	11	12	13	14	A	15	16
23.	20CQSAC042	RAKSHITH.S	1	2	3	4	A	5	6	7	A	8	9	10	A	11	12	13	A	14	15	16
24.	20CQSAC044	S.YATHESH	1	A	2	3	4	A	5	6	7	8	A	9	10	11	A	12	13	14	A	15
25.	20CQSAC045	SANJANA G	1	A	2	3	4	A	5	6	A	7	8	9	10	11	12	A	13	14	15	16
26.	20CQSAC047	SHASHIDHAR P B	1	2	3	A	4	5	6	A	7	8	9	10	A	11	12	13	14	15	A	A
27.	20CQSAC053	SUJAY KUMAR V	1	A	A	2	3	4	A	5	6	7	8	A	9	10	11	12	13	A	14	15
28.	20CQSAC055	THUSHITHA S R.	1	2	3	4	5	A	6	7	8	9	A	10	11	12	A	13	14	15	16	A
29.	20CQSAC057	VANDHANA M	1	2	A	3	4	5	6	A	7	8	9	10	A	11	12	A	13	14	A	15


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Department of Computer Applications -MCA

Computer Graphics - Add on Course

I Semester MCA

Attendance

Sl NO	Register No	Name	16/3	17/3	18/3	19/3	20/3	21/3	22/3	23/3	24/3								
1.	20CQ5AC002	AJAY KUMAR SHARMA	16	17	18	19	A	20	21	22	23	24							
2.	20CQ5AC003	AKSHAY B HADAPAD	16	17	A	18	19	20	A	21	22	23							
3.	20CQ5AC006	ANUP KUMAR GUPTA	16	17	A	18	19	20	21	22	23	24							
4.	20CQ5AC008	BHARATH KUMAR H D	16	17	18	A	19	20	A	21	22	23							
5.	20CQ5AC010	BINDU H M	16	17	18	19	A	20	21	22	23	24							
6.	20CQ5AC012	DEEPIKA G	A	16	17	18	A	19	20	21	22	23							
7.	20CQ5AC013	DESMOND DEV CHAANDER	16	17	A	18	A	19	20	21	22	23							
8.	20CQ5AC014	DEVARAJ	A	17	18	19	20	21	22	A	23	24							
9.	20CQ5AC015	DIVYA DARSHINI S	16	A	17	18	A	19	20	21	22	23							

10.	20CQ5AC017	GAUTAMA	15	16	A	17	18	19	20	21	22	23							
11.	20CQ5AC019	HARSHA NAIK	17	18	A	19	20	21	22	A	23	24							
12.	20CQ5AC022	KISHAN KUMAR THAKUR	17	A	18	19	20	21	A	22	A	23							
13.	20CQ5AC023	KRISHNA SWAROOP N J	16	17	A	18	19	20	A	21	22	23							
14.	20CQ5AC026	MANJUNATH S	A	16	17	18	19	A	20	21	22	23							
15.	20CQ5AC028	MITHUN M GOWDA	17	18	A	19	A	21	22	23	A	24							
16.	20CQ5AC029	MOHAMMED JUNAID A P	16	17	18	19	A	20	21	22	23	24							
17.	20CQ5AC032	NAGAVENI B	17	18	A	19	20	21	A	22	23	24							
18.	20CQ5AC033	NITHIN B	16	17	18	19	A	20	21	22	23	24							
19.	20CQ5AC034	PAVAN K P	17	A	18	19	A	20	21	A	22	23							
20.	20CQ5AC037	PRASANNAKUMA R K C	17	18	A	19	20	21	A	A	22	23							
21.	20CQ5AC039	PREETHY B	A	17	18	19	A	20	21	A	22	23							

22.	20CQSAC041	RAKSHITH M	17	A	18	19	A	20	21	22	23	24								
23.	20CQSAC042	RAKSHITH S	A	17	18	A	19	A	20	21	22	23								
24.	20CQSAC044	S YATHESH	16	17	18	19	A	20	21	22	23	24								
25.	20CQSAC045	SANJANA G	17	18	19	A	20	A	21	22	23	24								
26.	20CQSAC047	SHASHIDHAR P B	16	A	17	18	19	20	A	21	22	23								
27.	20CQSAC053	SUJAY KUMAR V	16	17	18	19	A	20	21	22	23	24								
28.	20CQSAC055	THUSHITHA S R	17	A	18	19	A	20	21	A	22	23								
29.	20CQSAC057	VANDHANA M	16	17	A	18	19	A	20	21	22	23								

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CERTIFICATE OF COMPLETION

This is presented to

BINDU H M - 20CQSAC010

for successfully completing 30 hours of Computer Graphics
course during March 2021



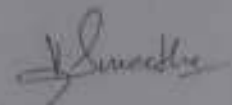
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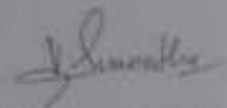
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DEEPIKA G - 20CQSAC012

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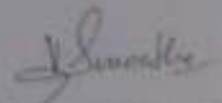
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DEVARAJ - 20CQSAC014

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This is presented to

MANJUNATH S - 20CQSAC026

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This is presented to

NITHIN R - 20CQSAC033

for successfully completing 30 hours of Computer Graphics
course during March 2021



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SHAVIGE MALLESHWARA HILLS, KUMARASWAMY LAYOUT, BANGALORE-560078
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This is presented to

NAGAVENI B - 20CQSAC032

for successfully completing 30 hours of Computer Graphics
course during March 2021



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This is presented to

PREETHY R - 20CQSAC039

for successfully completing 30 hours of Computer Graphics
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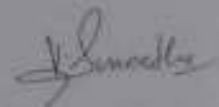
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This is presented to

RAKSHITH M - 20CQSAC041

for successfully completing 30 hours of Computer Graphics
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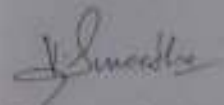
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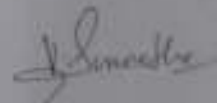
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Department of Computer Applications - MCA
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CERTIFICATE OF COMPLETION

This is presented to

SUJAY KUMAR V- 20CQSAC053

for successfully completing 30 hours of Computer Graphics
course during March 2021



Prof. Suneetha V, HOD
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