*2.6.2. Attainment of Programme outcomes and course outcomes are evaluated by the institution.*

**Course Attainment:**

Attainment of the course outcomes is measured through direct attainment and indirect attainment.

**Overall attainment of CO** = 70% CO attainment from Direct method + 30 % of CO attainment through Indirect method

**Direct attainment:** 30% of CO attainment through formative assessment tools + 70 % of CO attainment through summative assessment tools.

### 1.1 Formative assessment:
- Unit test/Practice test
- Assignments/Tutorials
- Seminars/Presentation
- Group discussion
- Case study
- Mock interviews
- Open book test
- Online test
- Industrial Visits
- Quiz
- Mini Project

### 1.2 Summative Assessment:
The result of University theory and Practical examinations

### 2. Indirect Attainment:
The course exit survey for each course at the end of semester.

**Programme Outcome Attainment:**

**Overall attainment of PO** = 80 % PO attainment from direct method + 20 % PO attainment from indirect method

**Direct Attainment:**
Sum (Overall CO attainment X PO mapping factor) / Sum ( PO mapping factor)

**Indirect Attainment:**
Following methods are used:
- Program exit survey
- Guest lecture

- Industry visits
- Workshops
- The feedback obtained from alumni and recruiters

Rubrics are the indirect assessment tool used to measure the attainment of PO.

The POs/PSOs attainments will be mapped to the PEOs.

# INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT

Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University ( Id-No. PU/PN/Engg/282/2007)

INDIRA

**DEPARTMENT:** Computer

**COURSE:** Computer Graphics

**SEMESTER:** I - 2021-22

**COURSE CODE:** 210244

## COURSE FILE: CONTENTS

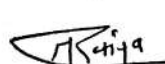| No. | CONTENTS |
|-----|----------|
| 1. | SYLLABUS |
| 2. | INDIVIDUAL TIMETABLE |
| 3. | TEACHING PLAN |
| 4. | PRACTICAL PLAN/TUTORIAL PLAN |
| 5. | ATTENDENCE RECORD |
| 6. | LIST OF ASSIGNMENTS (Theory Home Assignments) |
| 7. | LIST OF PRACTICAL ASSIGNMENT |
| 8. | STUDENT NOTICES |
| 9. | QUESTION BANK |
| 10. | QUESTION PAPERS (SPPU/UNIT TEST/MID-TERM/PRELIM/MCQ'S/OPEN BOOK TEST/PRACTICE TEST) |
| 11. | MARKSHEETS OF ALL EXAMS (PHASE/INSEM/ UNIT TEST/MID-TERM/PRELIM/MCQ'S/OPEN BOOK TEST/PRACTICE TEST) |
| 12. | CONTINUOUS ACCESSMENT SHEET WITH SIGN OF STUDENT FOR THEORY |
| 13. | CONTINUOUS ACCESSMENT SHEET WITH SIGN OF STUDENT FOR PRACTICAL |
| 14. | COURSE EXIT SURVEY AND ITS EVALUATION |
| 15. | CO-PO MAPPING, CO ATTAINMENT, PO ATTAINMENT |
| 16. | FEEDBACK |
| 17. | SAMPLE ASSIGNMENT /SAMPLE ANSWER SHEETS OF STUDENTS : 2 EACH |
| 18. | SAMPLE NOTES/ PPT's |
| 19. | SAMPLE JOURNEL IN SOFT COPY (ONE HARDCOPY AT DEPT LEVEL) |
| 20. | ACTIVITY FOR SLOW/ADVANCED LEARNER |
| 21. | ADDITIONAL ACTIVITY IF YOU HAVE CONDUCTED (OPTIONAL) |

**Computer Graphics**

| CO→ / Assessment tools↓ | 210244.1 | 210244.2 | 210244 | 210244.4 | 210245 | 210244.6 |
|---|---|---|---|---|---|---|
| **Direct Assessment** | | | | | | |
| **Internal Assessment** | | | | | | |
| Assignmet 1 | 3.00 | 3.00 | | | | |
| Assignment 2 | | | 3.00 | 3.00 | 3.00 | |
| Assignment 3 | | | 3.00 | 3.00 | 3.00 | 3.00 |
| Unit Test 1 | 3.00 | 3.00 | 3.00 | 3.00 | | |
| Unit Test 2 | | | 3.00 | 3.00 | 3.00 | 3.00 |
| Average direct Assessment= | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A = Internal attainment X 0.3= | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| **University exams** | | | | | | |
| In Sem Result | 3 | 3 | 3 | 3 | | |
| End Sem Result | 2 | 2 | 2 | 2 | 2 | 2 |
| Average direct Assessment= | 2.50 | 2.50 | 2.50 | 2.50 | 2.00 | 2.00 |
| B= University Result X 0.7= | 1.75 | 1.75 | 1.75 | 1.75 | 1.40 | 1.40 |
| Total Attainment -Direct Assessment D= (A+B)*.7 | 1.855 | 1.855 | 1.855 | 1.855 | 1.61 | 1.61 |
| **Indirect Assessment** | | | | | | |
| C = Course Exit Survey Attainment | 3 | 3 | 3 | 3 | 3 | 3 |
| Total Attainment -Indirect Assessment I= (C)*.3 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| CO Attainment = D+I | 2.755 | 2.755 | 2.755 | 2.755 | 2.51 | 2.51 |

## Rules for calculating Attainment level through SPPU Exam (University Exam- UE)

| Level of Attainment | Rule for Attainment |
|---|---|
| 3 | 60% or more students having more than average marks |
| 2 | 50% or more students having more than average marks |
| 1 | 40% or more students having more than average marks |

| Method | Tools for Asses | % Contribution | |
|---|---|---|---|
| Direct(Int) | Assignments | 0.3 | |
| | Test-1 | | |
| | Test-2 | | |
| Direct(Ext) | University Exams(Phase/ Insem & | 0.7 | 0.7 |
| Indirect | Course Exit Su | 0.3 | |

Name of the Faculty: Manjusha Tatiya
Signature:

Dr. Soumitra Das
Head of Department

## Computer Graphics

### Direct PO Attainment

| CO\PO | CO Attainment | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2.755 | 2 | 1 | 1 | | | | | | | | | | | | |
| CO2 | 2.755 | 3 | | 1 | 1 | | | | | | | | | | | | |
| CO3 | 2.755 | 1 | 2 | | 1 | | | | | | | | | | | | |
| CO4 | 2.755 | 2 | 1 | 1 | 1 | | | | | | | | | | | | |
| CO5 | 2.51 | 1 | | 1 | | | | | | | | | | | | | |
| CO6 | 2.51 | | 2 | 2 | 1 | | | | | | | | | | | | |
| CO Sum | | 9 | 6 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

| CO\PO | | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO1 1 | PO1 2 | PSO 1 | PSO 2 | PSO 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2.755 | 5.51 | 2.755 | 2.755 | | | | | | | | | | | | |
| CO2 | 2.755 | 8.265 | | 2.755 | 2.755 | | | | | | | | | | | | |
| CO3 | 2.755 | 2.755 | 5.51 | | 2.755 | | | | | | | | | | | | |
| CO4 | 2.755 | 5.51 | 2.755 | 2.755 | 2.755 | | | | | | | | | | | | |
| CO5 | 2.51 | 2.755 | | 2.755 | | | | | | | | | | | | | |
| CO6 | 2.51 | | 5.51 | 5.51 | 2.755 | | | | | | | | | | | | |
| PO Sum | | 24.8 | 16.53 | 16.53 | 11.02 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Overall Direct PO Attainment | | 2.76 | 2.76 | 2.76 | 2.76 | | | | | | | | | | | | |
| A = Overall Direct PO | | 2.20 | 2.20 | 2.20 | 2.20 | | | | | | | | | | | | |

### Indirect PO Attainment

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ProgramExit Survey | | | | | | | | | | | | | | | |
| | Industrial Training | | | | | | | | | | | | | | | |
| 20% | Workshop | | | | | | | | | | | | | | | |
| | Guest Lecture/Seminar | | | | | | | | | | | | | | | |
| | Total | | | | | | | | | | | | | | | |
| B = Overall Indirect PO | | | | | | | | | | | | | | | | |
| Overall PO attainment (A+B) | | 2.20 | 2.20 | 2.20 | 2.20 | | | | | | | | | | | |

$$PO_i = \frac{\sum_{j=1}^{n} CO_j W_j}{\sum_{j=1}^{n} W_j}$$

Name of the Faculty: Manjusha Tatiya
Signature:

Dr. Soumitra Das
Head of Department

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