JES, JHARSUGUDA

Lesson Plan

Name	**SABYASACHI SARANGI**	Total Hrs planned:60 Total Hrs per week: 04
SESSION	WINTER 2022-23	
Subject: Code/Name	**CST-501**	**Computer Graphics & Multimedia**
Semester/Programme/ Department	5th Semester/ Diploma/ Information Technology	
Course Objective	**After completion of this course the student will be able to:** Graphics and Multimedia-now a day probably the most talked about technology in the field of computer. This technology is nowadays largely adopted by most computer-based applications to bridge the gap between a human user & the computer. By this, multiple media are implemented and used in computer-based application to enhance their understanding ability before a common man. These multiple media include text, sound, video, graphics animation etc. This paper will expense the students to the various concepts of these media and their implementation in computer-based application. This will also expose the students to various multimedia implementation techniques like data compression, & various multimedia standards.	

JES, JHARSUGUDA

Sl. No	Detail Description of Topics/Subtopics	Mode of Lecture	References (Text Book and reference book Page No___to____)
1	**Chapter1:** Introduction to applications of Computer Graphics & Multimedia	Chalk & talk	TB1: 2
2	Computer graphics in CAD	PPT	TB1: 4,5
3	Presentation Graphics	Chalk & talk	TB1: 11,12
4	Computer Art & Entertainment	Chalk & talk	TB1: 13 to 18
5	Education & Training, Visualization	Chalk & talk	TB1: 21 to 25
6	Image Processing & Graphic User Interface	Chalk & talk	TB1: 32 to 34
7	Concept of Multimedia	Chalk & talk	TB2: 5,6
8	Revision of Chapter1	Questionaries	
6	**Chapter2:** Introduction to Overview of Graphics System	PPT	TB1: 35
7	Graphics System	Chalk & talk	TB1: 36,37
8	Raster Scan Display & Random Scan Display	Chalk & talk	TB1: 40,41
9	Graphics Input Devices	Chalk & talk	TB1: 60 to 70
10	Graphics Software	PPT	TB1: 75
11	Revision of Chapter 2	Questionaries	
16	**Chapter3:** Introduction to Graphics Output primitive	Chalk & talk	TB1: 83
17	Points & Lines	Chalk & talk	TB1: 84
18	DDA Line Drawing Algorithm	Chalk & talk	TB1: 86, 87
19	Bresenham's Line drawing Algorithm	Chalk & talk	TB1: 88
20	Filled Area Primitives	Chalk & talk	TB1: 117
21	Boundary fill algorithm, Flood fill algorithm	Chalk & talk	TB1: 127 to 130
22	Revision of Chapter 3	Questionaries	
23	Revision of Chapter1 to 3	Quiz	

24	**Chapter4:** Two Dimensional Geometric Transformations	PPT	TB1: 184
25	Translation	Chalk & talk	TB1: 184
26	Rotation	Chalk & talk	TB1: 184
27	Scaling	Chalk & talk	TB1: 184
28	Reflection	Chalk & talk	TB1:201
29	Shear	Chalk & talk	TB1:203
30	Matrix representation and Homogenous coordinate system	Chalk & talk	TB1:188
31	Composite transformation	Chalk & talk	TB1:191 to 194
32	Revision of Chapter 4	Questionaries	
33	**Chapter5:** Two-Dimensional Viewing	Chalk & talk	TB1: 216
34	Viewing pipeline	Chalk & talk	TB1: 217
35	Viewing coordinate reference frame	Chalk & talk	TB1: 219
36	Window to view port coordinate transformation	Chalk & talk	TB1: 220
37	Line clipping concept	Chalk & talk	TB1: 225,226
38	Polygon clipping concept	PPT	TB1: 237, 238
39	Revision of Chapter 5	Questionaries	
40	**Chapter6:** Three-Dimensional Object Representations	Chalk & talk	TB1: 304
41	Polygon surface & Table	PPT	TB1:305, 306
42	Plane equation	Chalk & talk	TB1:307,308
43	Polygon mesh	Chalk & talk	TB1:309
44	Quadric surfaces	Chalk & talk	TB1: 310
45	Sphere, Ellipsoid	PPT	TB1: 311
46	Spline representation	Chalk & talk	TB1: 315
47	Bezier curves & Surfaces	Chalk & talk	TB1: 327 to 329
48	B-Spline curves & surfaces.	Chalk & talk	TB1: 334, 335
49	Revision of Chapter 6	Questionaries	

50	**Chapter7:** Three Dimensional Geometric & Modeling Transformations	Chalk & talk	TB1: 407
51	Translation, Rotation, Scaling, Reflection, Shear	PPT	TB1: 408 to 423
52	Composite transformation	Chalk & talk	TB1: 423
53	Modeling & Coordinate transformation.	Chalk & talk	TB1: 426 to 428
54	Revision of Chapter 7	Questionaries	
55	**Chapter8:** Three-Dimensional Viewing	Chalk & talk	TB1: 431
56	Viewing pipeline	Chalk & talk	TB1: 432
57	Viewing coordinates	Chalk & talk	TB1: 433
58	Parallel projection & Perspective projection	Chalk & talk	TB1: 438 to 443
59	Concept of 3D clipping.	PPT	TB1: 456 to 460
60	Revision of Chapter 8	Questionaries	
61	**Chapter 9:** Illumination Model & Surface Rendering Methods	Chalk & talk	TB1: 494
62	Different light sources used in 3D Modeling	Chalk & talk	TB1: 496
63	Basic Illumination model	PPT	TB1: 497
64	Ambient light	Chalk & talk	TB1: 497
65	Diffuse reflection & Specular reflection	Chalk & talk	TB1: 497
66	Revision of Chapter 9	Questionaries	
67	**Chapter 10:** Introduction to Digital Audio	PPT	TB2: 66
68	Basics of Acoustics, Psychoacoustics	PPT	TB2: 66
69	Musical sound and noise, elementary sound system	Chalk & talk	TB2: 66 to 68
70	Microphones, Amplifiers, digital audio formats	Chalk & talk	TB2: 68 to 71
71	Audio compression (LPC, Sub Band Encoding)	Chalk & talk	TB2: 72 to 75
72	Revision of Chapter 10	Questionaries	
73	**Chapter 11:** Introduction to Digital Image	PPT	TB2: 75
74	Vector and raster Graphics	Chalk & talk	TB2: 75,76

75	Digital representation of image, colour, 16-bit, 24-bit colour depth	Chalk & talk	TB2: 76,77
76	Colour Characteristics-Hue, saturation, Luminance & Colour Palette	Chalk & talk	TB2: 77
77	Image formats-JPEG, BMP, TIFF, GIFF & Image evaluation	Chalk & talk	TB2: 77 to 82
78	Layers & Filters	Chalk & talk	TB2: 82 to 84
79	Image manipulation-scaling, cropping, rotation	Chalk & talk	TB2: 84 to 85
80	Revision of Chapter 11	Questionaries	
81	**Chapter 12:** Introduction to Video	PPT	TB2: 86
82	Video in Multimedia	PPT	TB2: 86
83	Basics of Motion-Video & Sources of Motion-Video	Chalk & talk	TB2: 86,87
84	Video formats, lines, frames, fields	Chalk & talk	TB2: 87,88
85	TV Broadcast standards-PAL, NTSC, SECAM	Chalk & talk	TB2: 88, 89
86	MPEG Compression	Chalk & talk	TB2: 89
87	Revision of Chapter 12	Questionaries	
88	Problems and revision	Questionaries & Quiz	

Sl. No.	***Name of Authors***	***Title of the Book***	***Name of the Publisher***
TB1	Donald Hearn, M.Pauline Baker	Computer Graphics	PHI
TB2	Buford	Multimedia Systems	Pearson
TB3	Jose Lozano	Multimedia: Sound and Video	PHI
TB4	S.Pandey, M.Pandey	Multimedia Systems, Tech. & Communications	Katson

SUBJECT FACULTY H.O.D DEAN (ACADEMIC) PRINCIPAL

JHARSUGUDA ENGG.SCHOOL,JHARSUGUDA.

Name of the Faculty : Rabi Ku Darji & Barsha Rani Patel

Entrepreneurship and Management & Smart Technology

Theory: 4 Periods per week — Internal Assessment: 20 Marks

Total Periods: 60 Periods — End Sem Exam: 80 Marks

Examination: 3 hours — Total Marks: 100 Marks

Semester: 5th IT — SESSION-2022-23 WINTER

Discipline: IT	Semester:5th	Name of the Teaching Faculty: **Rabi Ku Darji & Barsha Rani Patel**
Subject: Entrepreneurship and Management & Smart Technology	No. of Days/per week class allotted: 04 Days	No. of Weeks: 15
Weeks	Class Day	Theory Topics
1st	1st	1. **Entrepreneurship** Concept /Meaning of Entrepreneurship and Need of Entrepreneurship
	2nd	Characteristics, Qualities and Types of entrepreneur
	3rd	Functions and Barriers in entrepreneurship
	4th	Entrepreneurs vrs. Manager
2nd	1st	Forms of Business Ownership: Sole proprietorship, partnership forms and others
	2nd	Types of Industries
	3rd	Concept of Start-ups
	4th	Entrepreneurial support agencies at National, State, District Level(Sources): DIC, NSIC,OSIC
3rd	1st	SIDBI, NABARD, Commercial Banks, KVIC etc.
	2nd	Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks
	3rd	2. **Market Survey and Opportunity Identification (Business Planning)** Business Planning

	4th	SSI, Ancillary Units, Tiny Units
4th	1st	Service sector Units , Time schedule Plan
	2nd	Agencies to be contacted for Project Implementation
	3rd	Assessment of Demand and supply
	4th	Potential areas of Growth of Demand and supply
5th	1st	Identifying Business Opportunity
	2nd	Final Product selection
	3rd	3. **Project report Preparation** Preliminary project report
	4th	Detailed project report
6th	1st	Techno economic Feasibility
	2nd	Project Viability
	3rd	4. **Management Principles** Definitions of management and importance of management
	4th	Principles of management
7th	1st	Principles of management Functions of management (planning, organising)
	2nd	Functions of management (staffing, directing, leadership, motivating, Communicating and controlling etc.)
	3rd	Level of Management in an Organisation
	4th	5. **Functional Areas of Management** Production management (Function and Activities), Productivity, Quality control.
8th	1st	Production Planning and control, Inventory Management - Need and techniques of Inventory management.
	2nd	Financial Management, Functions of Financial management, Management of Working capital.
	3rd	Costing (only concept), Break even Analysis, Brief idea about Accounting Terminologies : Book Keeping, Journal entry
	4th	Petty Cash book, P&L Accounts, Balance Sheets.
9th	1st	Concept of Marketing and Marketing Management and its techniques.

	2nd	Concept of 4P s (Price, Place, Product, Promotion), Human Resource Management.
	3rd	Functions of Personnel Management, Manpower Planning, Recruitment, Sources of manpower.
	4th	Sources of manpower, Selection process, Method of Testing.
10th	1st	Methods of Training & Development, Payment of Wages.
	2nd	6. **Leadership and Motivation** Leadership (Definition and Need/Importance), Qualities and functions of a leader.
	3rd	Manager Vs Leader, Style of Leadership (Autocratic, Democratic, Participative)
	4th	Motivation (Definition and characteristics), Importance of motivation.
11th	1st	Factors affecting motivation, Theories of motivation (Maslow).
	2nd	Methods of Improving Motivation, Importance of Communication in Business.
	3rd	Types and Barriers of Communication.
	4th	7. **Work Culture, TQM & Safety** Human relationship and Performance in Organization.
12th	1st	Relations with Peers, Superiors and Subordinates. TQM concepts: Quality Policy
	2nd	TQM concepts: Quality Management, Quality system, QMS
	3rd	Accidents and Safety, Cause, preventive measures
	4th	General Safety Rules , Personal Protection Equipment(PPE)
13th	1st	8. **Legislation** Intellectual Property Rights(IPR), Patents
	2nd	Trademarks
	3rd	Copyrights
	4th	Describes the factories Act 1948
14th	1st	Features of Factories Act 1948 with Amendment (only salient points)
	2nd	Features of Payment of Wages Act 1936 (only salient points)

	3rd	9. **Smart Technology** Concept of IOT, How IOT works
	4th	Components of IOT
15th	1st	Characteristics of IOT, Categories of IOT
	2nd	Applications of IOT- Smart Cities, Smart Transportation
	3rd	Smart Home, Smart Healthcare, Smart Industry
	4th	Smart Agriculture, Smart Energy Management etc.

JES, JHARSUGUDA

Name	**MRS. BARSHARANI PATEL**	Total Hrs planned:60 Total Hrs per week:04
SESSION	**WINTER 2022-23**	
Subject: Code/Name	**Th.2**	**Internet and Web Technology**
Semester/Programme / Department	**5th SEMESTER/**Diploma/Information Technology	
Course Objective	• Internet is the buzz word in today's society. • It is a vast pool of information. • Without the knowledge of internet we are in total darkness. • This paper deals with TCP/IP which is the backbone of internet. • Web pages are used to project the profile on an organization, product or person etc. • This paper also deals with the design aspect of Web Page.	

JES, JHARSUGUDA

Sl.No	Detail Description of Topics/Subtopics	Mode of Lecture
1.	**Internet fundamental**	
1.1	Motivation for internet working.	Chalk & talk
1.2	Internet architecture board.	Chalk & talk
1.3	Internet protocol and standardization.	Chalk & talk
1.4	Role of ISP and factors of choosing an ISP.	Chalk & talk
1.5	Internet service providers in india.	Chalk & talk
1.6	Types of connectivity such as dial up, leased,	Chalk & talk
	VSAT etc.	Chalk & talk
1.7	Properties of internet.	Chalk & talk
1.8	Internet architecture.	Chalk & talk
1.9	Interconnection through IP router.	Chalk & talk
1.10	All networks are equal.	Chalk & talk
1.11	Internet address.	Chalk & talk
1.12	Original cassfull addressing scheme	Chalk & talk
1.13	Adress specify network connections	Chalk & talk
1.14	Dotted decimal notation	Chalk & talk
1.15	Internet addressing authority	Chalk & talk

2	**TCP / IP**	
2.1	TCP / IP internet layering model	Chalk & talk
2.2	Reliable stream transport service Need for stream delivery	Chalk & talk
2.3	Properties of reliable delivery service	Chalk & talk
2.4	Providing reliability	Chalk & talk
2.5	Idea behind slide window	Chalk & talk
2.6	Port connection and end points, segments, streams sequence numbers	Chalk & talk
2.7	TCP segment format	Chalk & talk
2.8	TCP header	Chalk & talk
2.9	TCP checksum	Chalk & talk
2.10	Acknowledgement	Chalk & talk
2.11	Timeout and retransmission	Chalk & talk
2.12	Respond to conjunction	Chalk & talk
2.13	Establishment of a TCP connection	Chalk & talk
2.14	Source and destination address	Chalk & talk
2.15	Protocol number	Chalk & talk
2.16	Checksum	Chalk & talk
2.17	Closing TCP connection	Chalk & talk
2.18	TCP connection reset	Chalk & talk
	Revision of Chapter 2	
3	**INTERNET PROTOCAL**	
3.1	Connectionless data gram delivery	Chalk & talk
3.2	Concept of unreliable delivery	Chalk & talk
3.3	Connectionless delivery system	Chalk & talk
3.4	Propose of internet protocol	Chalk & talk
3.5	IP header	Chalk & talk
3.6	Source and destination address	Chalk & talk
3.7	Protocol number	Chalk & talk
3.8	Checksum	Chalk & talk
3.9	Rooting in an internet	Chalk & talk
3.10	Direct and indirect delivery	Chalk & talk
3.11	Table driven IP root	Chalk & talk
3.12	Default root	Chalk & talk
3.13	Host specific roots	Chalk & talk
3.14	Rooting with IP address	Chalk & talk
	Revision of Chapter 3	
4	**SUBNET ADDRESS EXTENSION**	
4.1	Introduction to subnet address extension	Chalk & talk
4.2	Minimizing network number	Chalk & talk
4.3	Transparent routers	Chalk & talk
4.4	Subnet addressing	Chalk & talk
4.5	Flexibility in subnet address assignment	Chalk & talk

4.6	**S**Implementation of subnet with mask	Chalk & talk
4.7	Subnet mask representation	Chalk & talk
4.8	Routing in the presence of subnet	Chalk & talk
	Revision of Chapter 4	
5	**UDP**	
5.1	Introduction to UDP	Chalk & talk
5.2	Identifying the ultimate destination	Chalk & talk
5.3	Format of UDP message	Chalk & talk
	Revision of Chapter 5	
6	**DOMAIN NAMES SYSTEM**	
6.1	Hierarchical names	Chalk & talk
6.2.1	Subnet authority	Chalk & talk
6.2.1	Internet domain names	Chalk & talk
6.2.	Mapping of domain name to address	Chalk & talk
6.2.4	Domain name resolution	Chalk & talk
6.2.5	Efficient translation	Chalk & talk
6.2.6	Abbreviation of domain name	Chalk & talk
	Revision of Chapter 6	
7	**INTERNET APPLICATIONS & SERVICES**	
7.1	E-Mail network	Chalk & talk
7.2	E-Mail protocols	Chalk & talk
7.3	Format of an e-mail message	Chalk & talk
7.4	E-Mail routing	Chalk & talk
7.5	E-Mail clients, POP3, IMAP	Chalk & talk
7.6	Public domain software	Chalk & talk
7.7	Types of FTP servers	Chalk & talk
7.8	FTP clients	Chalk & talk
7.9	Telnet protocol	Chalk & talk
7.10	Server domain	Chalk & talk
7.11	Clients	Chalk & talk
7.12	IRC network & servers	Chalk & talk
7.13	Channels	Chalk & talk
7.14	World wide web	Chalk & talk
7.15	Browser	Chalk & talk
	Revision of Chapter 7	
8	**HTML & INTERACTIVE TOOLS**	
8.1	Document overview explain header elements	Chalk & talk
8.2	Section heading	Chalk & talk
8.3	Block oriented elements discuss list	Chalk & talk
8.4	Inline elements	Chalk & talk
8.5	Visual markup	Chalk & talk
8.6	Hypertext links	Chalk & talk
8.7	Uniform resource locator discuss imagers	Chalk & talk
8.8	Tables	Chalk & talk
8.9	Special characters	Chalk & talk

8.10	CGI (common gateway interface) explain active X	Chalk & talk
8.11	VB script	Chalk & talk
8.12	Java script	Chalk & talk
8.13	XML application	Chalk & talk
8.14	XML rules	Chalk & talk
8.15	Displaying XML documents	Chalk & talk
8.16	Parts of XML documents	Chalk & talk
8.17	Concepts of DTD	Chalk & talk
8.18	Entity definition & classification concepts of templates & Its use filtering & sorting.	Chalk & talk
	Revision of Chapter 8	
	BOOKS :-	
1	Internet working with TCP / IP Vol-1 ; Principles, Protocols & Architecture By Douglas E. Corner - PHI	
2	HTML : The definitive guide – By Chuck Musciano & Kennedy	
3	Internet working with TCP?IP Vol II : Design, implementation & internals By Douglas E. Corner & David L. Stevens - PHI	
4	Internet and web page design By Sisodia : BPB publication	
5	Web technologies By U.K Roy, Oxford Univ. Press	

JES, JHARSUGUDA

Lesson Plan

Name	**SABYASACHI SARANGI**	Total Hrs planned:60 Total Hrs per week: 04
SESSION	WINTER 2022-23	
Subject: Code/Name	ITT-601	Mobile Computing
Semester/Programme/ Department	5th Sem / Diploma/ Information Technology	
Course Objective	1. To understand basics of Wireless networks & Mobile Computing. 2. To be able to Mobile Development Frameworks 3. To learn about Wireless Transmission, Wireless LANs 4. To understand various Mobile IP, Wireless Telecomm Networks, Messaging Services.	

JES, JHARSUGUDA

Sl.No	Detail Description of Topics/Subtopics	Mode of Lecture
1	**Chapter1: Introduction to Wireless networks & Mobile Computing**	Chalk & talk
2	Networks	Chalk & talk
3	Wireless Networks	Chalk & talk
4	Mobile Computing	PPT
5	Mobile Computing Characteristics	PPT
6	Application of Mobile Computing	NPTEL VIDEO
7	Revision of Chapter 1	Questionnaires & Class Test
8	**Chapter2: Introduction to Mobile Development Frameworks**	Chalk & talk
9	C/S architecture	NPTEL VIDEO
10	n-tier architecture	PPT
11	n-tier architecture and www	NPTEL VIDEO
12	Peer-to Peer architecture	Chalk & talk
13	Mobile agent architecture	NPTEL VIDEO
14	Revision of Chapter 2	Questionnaires & Class Test
15	**Chapter 3: Wireless Transmission**	Chalk & talk
16	Introduction	Chalk & talk
17	Signals	PPT
18	Period, Frequency and Bandwidth.	Chalk & talk
19	Antennas	Chalk & talk
20	Signal Propagation	Chalk & talk
21	Multiplexing	NPTEL VIDEO
22	Modulation	Chalk & talk
23	Spread Spectrum	NPTEL VIDEO
24	Cellular System	NPTEL VIDEO
25	Revision of Chapter 3	Questionnaires & Class Test
26	**Chapter 4: Medium Access Control**	Chalk & talk
27	Introduction	PPT
28	Hidden/ Exposed Terminals	Chalk & talk
29	The basic Access Method	Chalk & talk
30	Near / Far Terminals	NPTEL VIDEO
31	SDMA, FDMA,TDMA, CDMA	NPTEL VIDEO
32	Revision of Chapter 4	Questionnaires & Class Test

JES, JHARSUGUDA

33	**Chapter 5: Wireless LANs**	Chalk & talk
34	Wireless LAN and communication	PPT
35	Infrared	Chalk & talk
36	Radio Frequency	NPTEL VIDEO
37	IR Advantages and Disadvantages	Chalk & talk
38	RF Advantages and Disadvantages	Chalk & talk
39	Wireless Network Architecture Logical	Chalk & talk
40	Types of WLAN	Chalk & talk
41	IEEE 802.11	Chalk & talk
42	MAC layer	Chalk & talk
43	Security	NPTEL VIDEO
44	Synchronization	NPTEL VIDEO
45	Power Management	NPTEL VIDEO
46	Roaming	NPTEL VIDEO
47	Bluetooth Overview	NPTEL VIDEO
48	Revision of Chapter 5	Questionnaires & Class Test
49	**Chapter 6 : Ubiquitous Wireless Communication**	Chalk & talk
50	Introduction	Chalk & talk
51	Scenario of Mobile Communication	NPTEL VIDEO
52	Mobile Communication Generations 1G to 3G	Chalk & talk
53	3rd Generation Mobile Communication Network	PPT
54	Universal Mobile telecommunication System (UMTS	Chalk & talk
55	Revision of Chapter 6	Questionnaires & Class Test
56	**Chapter 7 : Mobile IP**	Chalk & talk
57	Overview	Chalk & talk
58	Working with mobile IP	NPTEL VIDEO
59	Mobile IP Entities	PPT
60	Mobility Agents	NPTEL VIDEO
61	Components of Mobile IP	NPTEL VIDEO
62	Mobile IPv6 Features	NPTEL VIDEO
63	Mobile IPv6 Address Types	NPTEL VIDEO
64	Mobile IPv6 Address Scope	NPTEL VIDEO
65	Revision of Chapter 7	Questionnaires & Class Test
66	**Chapter 8 : Mobile Computing**	Chalk & talk

67	WWW architecture for Mobile computing	Chalk & talk
68	Need of WAP	Chalk & talk
69	Benefits of WAP	Chalk & talk
70	Examples of WAP	Chalk & talk
71	WAP- Architecture	Chalk & talk
72	WAP protocols	Chalk & talk
73	WML	Chalk & talk
74	WAP Push architecture	Chalk & talk
75	Push-Pull based data acquisition	Chalk & talk
76	I-mode	Chalk & talk
77	WAP 2.x	Chalk & talk
78	Revision of Chapter 8	Questionnaires & Class Test
79	**Chapter 9: Wireless Telecomm Networks**	Chalk & talk
80	GSM	Chalk & talk
81	GPRS	Chalk & talk
82	IS-95	Chalk & talk
83	CDMA-2000	Chalk & talk
84	W-CDMA	NPTEL VIDEO
85	Wireless Sensor Networks	NPTEL VIDEO
86	Revision of Chapter 9	Questionnaires & Class Test
87	**Chapter 10: Messaging Services**	Chalk & talk
89	Short Message Services (SMS)	Chalk & talk
90	Multimedia Message Services (MMS)	NPTEL VIDEO
91	Multimedia transmission over wireless	NPTEL VIDEO
92	Revision of Chapter 10	Questionnaires & Class Test

BOOK

1. Mobile Computing ; By : Dr. N.NJani, Kamaljit I. Lakhtaria, Dr. Ashish N. Jani & Nita Kanabar (S.Chand & Company Ltd.)

SUBJECT FACULTY H.O.D ACADEMIC COORDINATOR PRINCIPAL

JES, JHARSUGUDA

Lesson Plan

Name	**MRS. BARSHARANI PATEL**	Total Hrs planned:60 Total Hrs per week: 04
SESSION	WINTER 2022-23	
Subject: Code/Name	**Th.3**	**SOFTWARE ENGINEERING**
Semester/Programme/ Department	**5th SEMESTER**/ Diploma/ Information Technology	
Course Objective	• Knowledge of basis SW engineering methods and practices and their appropriate application • Basic knowledge and understanding of the analyses and design of complex system. • Ability to apply software engineeringprincipals and technique. • Ability to develop maintain and evaluate large scale software system. • Ability to performindependent , research and analysis. • To communicate and coordinate competently by listening , speaking , reading and writing English for technical and general purposes. • Ability to work as an effective member or leader of software engineering team. • To manage time proses and resources effectively by competing demand to achieve personal and teams goals identify and analyses the common threats in each domain.	

JES, JHARSUGUDA

Sl No	Period / Class	Time (min)	Unit	Detail Description of Topics/Subtopics	Mode of Lecture	References (Text Book and reference book Page No___to____)
1	1	55	1	**Introduction to Software Engineering.**	Chalk & talk	TB1: 1 to 53
2	2	55	1	Program vrs Software product	Chalk & talk	TB1: 6
3	3	55	1	Emergencies of Software Engineering.	Chalk & talk	TB1: 15
4	4	55	1	Computer System Engineering.	Chalk & talk	TB1: 25
5	5	55	1	Software Life Cycle Models.	Chalk & talk	TB1: 30 to 48
6	6	55	1	Classical Water fall model	Chalk & talk	TB1: 33 to 40
7	7	55	1	Iterative Water fall model	Chalk & talk	TB1: 41 to 42
8	8	55	1	Prototyping model	Chalk & talk	TB1: 43 to 44
9	9	55	1	Evolutionary model	Chalk & talk	TB1: 45 to 47
10	10	55	1	Spiral model	Chalk & talk	TB1: 48
11	11	55	1	Revision Chapter - 1	Questio ners	
12	12	55	2	***Software Project Management***	Chalk & talk	TB1: 57 to 107
13	13	55	2	Responsibilities of Project Manager	Chalk & talk	TB1- 57 to 58
14	14	55	2	Project Planning	Chalk & talk	TB1 : 58
15	15	55	2	Metrics for project size estimation (LOC & FP)	Chalk & talk	TB1 : 61 to 63
16	16	55	2	Project Estimation Techniques	Chalk & talk	TB1 : 66 to 68
17	17	55	2	COCOMO Models, Basic,Intermediate and complete	Chalk & talk	TB1: 68 to 74
18	18	55	2	Scheduling	Chalk & talk	TB1: 83
19	19	55	2	Organization and Team Structure	Chalk & talk	TB1: 89 to 91
20	20	55	2	Staffing	Chalk & talk	TB1: 93 to 94
21	21	55	2	Risk Management	Chalk & talk	TB1: 95 to 97

JES, JHARSUGUDA

22	22	55	2	Configuration Management.	Chalk & talk	TB1: 98 to 103
23	23	55	2	Revision Chapter - 2	Questio ners	
24	24	55	3	***Requirement Analysis and Specification***	Chalk & talk	TB1: 108 to 148
25	25	55	3	Requirements gathering and analysis	Chalk & talk	TB1: 109 to 112
26	26	55	3	Software Requirements Specification. (SRS)	Chalk & talk	TB1: 114
27	27	55	3	Contents of SRS	Chalk & talk	TB1: 115
28	28	55	3	Characteristics of Good SRS	Chalk & talk	TB1: 115
29	29	55	3	Organization of SRS	PPT	TB1: 125
30	30	55	3	Techniques for representing complexion logic.	Chalk & talk	TB1: 129
31	31	55	3	Revision Chapter - 3	Questio ners	
32	32	55	4	**Software Design**	Chalk & talk	TB1: 149 to 202
33	33	55	4	What is a good S/W design.	Chalk & talk	TB1: 152
34	34	55	4	Cohesion and coupling.	Chalk & talk	TB1: 155 to 159
35	35	55	4	Eat arrangement	Chalk & talk	TB1: 160
36	36	55	4	S/W Design approaches	Chalk & talk	TB1: 162 to 163
37	37	55	4	Structured analysis	Chalk & talk	TB5: 172
38	38	55	4	Data Flow Diagrams	Chalk & talk	TB1: 172 to 193
39	39	55	4	Symbols used in DFD	Chalk & talk	TB1: 173
40	40	55	4	Designing DFD	Chalk & talk	TB1: 174
41	41	55	4	Developing DFD model of a system	Chalk & talk	TB1:177
42	42	55	4	Short coming of DFD	Chalk & talk	TB1:193
43	43	55	4	Structured Design	Chalk & talk	TB1: 194
44	44	55	4	Principles of transformation of DFD to Structure Chart	Chalk & talk	TB1: 196
45	45	55	4	Transform analysis and Transaction Analysis	Chalk & talk	TB1: 196 to 197
46	46	55	4	Design Review	Chalk & talk	TB1: 201
47	47	55	4	Revision Chapter - 4	Question	

					ers	
48	48	55	5	***User Interface Design***	Chalk & talk	TB1: 300 to 322
49	49	55	5	Characteristics of good interface	Chalk & talk	TB1: 301
50	50	55	5	Basic concepts of UID	Chalk & talk	TB1: 303 to 304
51	51	55	5	Types of user interfaces	Chalk & talk	TB1: 305 to 307
52	52	55	5	Components based GUI development	Chalk & talk	TB1: 308 to 315
53	53	55	5	Revision Chapter - 5	Question ers	
54	54	55	6	**Software Coding And Testing**	Chalk & talk	TB1: 323 to 369
55	55	55	6	Coding	Chalk & talk	TB1: 324
56	56	55	6	Code Review	Chalk & talk	TB1: 326
57	57	55	6	Code walk through	Chalk & talk	TB1: 327
58	58	55	6	Code inspections and software Documentation	Chalk & talk	TB1: 327
59	59	55	6	Testing	Chalk & talk	TB1: 331 to 334
60	60	55	6	Unit Testing	Chalk & talk	TB1: 334 to 335
61	61	55	6	Black Box Testing	Chalk & talk	TB1: 336 to 338
62	62	55	6	Equivalence class partitioning and boundary value analysis	Chalk & talk	TB1: 336
63	63	55	6	White Box Testing	Chalk & talk	TB1: 338
64	64	55	6	Different White Box methodologies statement coverage branch coverage, condition coverage, path coverage, cyclamates complexity data flow based testing and mutation testing.	Chalk & talk	TB1: 338 to 347
65	65	55	6	Debugging approaches	Chalk & talk	TB1: 348
66	66	55	6	Debugging guidelines	Chalk & talk	TB1: 349
67	67	55	6	Integration Testing	Chalk & talk	TB1: 351
68	68	55	6	Phased and incremental integration testing	Chalk & talk	TB1: 352
69	69	55	6	System testing alphas beta and acceptance testing	Chalk & talk	TB1: 356
70	70	55	6	Performance Testing, Error seeding	Chalk & talk	TB1: 357
71	71	55	6	General issues associated with testing	Chalk & talk	TB1: 360
72	72	55	6		Question	

				Revision Chapter - 6	ers	
73	73	55	7	***Software Reliability***		TB1: 370 to 395
74	74	55	7	Software Reliability	Chalk & talk	TB1: 371
75	75	55	7	Different reliability metrics	Chalk & talk	TB1: 373
76	76	55	7	Reliability growth modeling	Chalk & talk	TB1: 375
77	77	55	7	Software quality	Chalk & talk	TB1: 377
78	78	55	7	Software Quality Management System	Chalk & talk	TB1: 377 to 379
79	79	55		Problems and Revision	Chalk & talk	
				Text Book- 1 (TB1): Fundamentals of Software Engineering. – Rajib Mall, Prentice hall of Indi		