	CAPITAL SCHOOL OF ENGINEERING
PLOT NO. 1288, MAHATAPALLA, BAJAPUR, KHURDA,PIN-752060	
Session: 2023-2024	
Course Name: DIPLOMA	**Branch Name:** COMPUTER SCIENCE
Subject Name: TH 5 : Mobile Computing	**Theory/Practical:** Theory
Section: A	**Teacher Name:** DEBASISH MOHAPATRA
Semester: 5	

Credit '4' External Evaluation(Marked) '' Internal Evaluation(Marked) ''

Text Books:

Sl.No	Text Books
1	Mobile Computing BY Dr. N.NJani, Kamaljit I. Lakhtaria, Dr. Ashish N. Jani & Nita Kanabar

Reference books:

Sl.No	Reference books
1	Mobile Computing BY Dr. N.NJani, Kamaljit I. Lakhtaria, Dr. Ashish N. Jani & Nita Kanabar

Course Outcomes:

Sl.No	Course Outcomes
1	To learn Mobile Computing Principles and Architecture
2	To understand Mobility Management, GSM, and GPRS networks
3	To know Short Message Service (SMS) technology, GPRS, WAP, CDMA, 3G
4	Understand Wireless LAN, WiFi, and WLL (Wireless Local Loop) Architecture
5	Understand the concept of Mobile IP.
6	Learn Bluetooth, RFID, and Satellite Communications.
7	To Know Next Generation Networks (NGN)

SL No.	Lecture No.	Module/Unit No.	Topic To Be Taught	Cos	Reference Material Links
1	1	I	Wireless Networks	Cos 1	
2	2	I	Mobile Computing Characteristics	Cos 1	
3	3	I	Application of Mobile Computing	Cos 1	
4	4	I	REVISION	Cos 1	
5	5	I	ASSIGNMENT-1	Cos 1	
6	6	I	CLASS TEST-1	Cos 1	
7	7	II	C/S architecture	Cos 2	
8	8	II	n-tier architecture and www	Cos 2	
9	9	II	Mobile agent architecture	Cos 2	
10	10	II	REVISION	Cos 2	
11	11	II	ASSIGNMENT-2	Cos 2	
12	12	II	CLASS TEST-2	Cos 2	
13	13	III	Period, Frequency and Bandwidth	Cos 2	
14	14	III	Signal Propagation	Cos 2	
15	15	III	Spread Spectrum	Cos 2	
16	16	III	REVISION	Cos 2	
17	17	III	ASSIGNMENT-3	Cos 2	
18	18	III	CLASS TEST-3	Cos 2	
19	19	IV	Hidden/ Exposed Terminals	Cos 3	
20	20	IV	The basic Access Method	Cos 3	
21	21	IV	SDMA, FDMA,TDMA, CDMA	Cos 3	
22	22	IV	REVISION	Cos 3	
23	23	IV	ASSIGNMENT-4	Cos 3	
24	24	IV	CLASS TEST-4	Cos 3	
25	25	V	Wireless LAN and communication	Cos 3	
26	26	V	Radio Frequency	Cos 3	
27	27	V	Wireless Network Architecture Logical	Cos 3	
28	28	V	Bluetooth Overview	Cos 3	
29	29	V	REVISION	Cos 3	

30	30	V	ASSIGNMENT-5	Cos 3	
31	31	V	CLASS TEST-5	Cos 3	
32	32	VI	Scenario of Mobile Communication	Cos 4	
33	33	VI	Mobile Communication Generations 1G to 3G	Cos 4	
34	34	VI	3rd Generation Mobile Communication Network	Cos 4	
35	35	VI	Universal Mobile telecommunication System	Cos 4	
36	36	VI	REVISION	Cos 4	
37	37	VI	ASSIGNMENT-6	Cos 4	
38	38	VI	CLASS TEST-6	Cos 4	
39	39	VII	Working with mobile IP	Cos 4	
40	40	VII	Components of Mobile IP	Cos 4	
41	41	VII	Mobile IPv6	Cos 4	
42	42	VII	REVISION	Cos 4	
43	43	VII	ASSIGNMENT-7	Cos 4	
44	44	VII	CLASS TEST-7	Cos 4	
45	45	VIII	WWW architecture for Mobile computing	Cos 5	
46	46	VIII	WAP- Architecture	Cos 5	
47	47	VIII	Push-Pull based data acquisition	Cos 5	
48	48	VIII	REVISION	Cos 5	
49	49	VIII	ASSIGNMENT-8	Cos 5	
50	50	VIII	CLASS TEST-8	Cos 5	
51	51	VIII	GSM, GPRS ,IS-95	Cos 6	
52	52	VIII	CDMA-2000 ,W-CDMA ,Wireless Sensor Networks	Cos 6	
53	53	VIII	REVISION	Cos 6	
54	54	VIII	ASSIGNMENT-9	Cos 6	
55	55	VIII	CLASS TEST-9	Cos 6	

56	56	IX	Short Message Services (SMS), Multimedia Message Services (MMS)	Cos 6	
57	57	IX	Multimedia transmission over wireless	Cos 6	
58	58	IX	REVISION	Cos 6	
59	59	IX	ASSIGNMENT-10	Cos 6	
60	60	IX	CLASS TEST-10	Cos 6	

Debasis Mahapatra

Faculty Name

Debasis Mahapatra

HOD

Principal

	CAPITAL SCHOOL OF ENGINEERING
PLOT NO. 1288, MAHATAPALLA, BAJAPUR, KHURDA,PIN-752060	
Session: 2023-2024	
Course Name: DIPLOMA	**Branch Name:** COMPUTER SCIENCE
Subject Name: TH 3 : Software Engineering	**Theory/Practical:** Theory
Section: A	**Teacher Name:** BIJAYA KUMAR ROUT
Semester: 5	

Credit '4' External Evaluation(Marked) '' Internal Evaluation(Marked) ''

Text Books:

Sl.No	Text Books
1	Fundamentals of Software Engineering BY Rajib Mall

Reference books:

Sl.No	Reference books
1	Software Engineering: Principles and Practice BY Deepak Jain

Course Outcomes:

Sl.No	Course Outcomes
1	Understand the concept of Software Engineering.
2	Understand how costs, schedule and quality drive a software project.
3	Understand the role of software process and a process model in a project
4	Understand planning and estimation of a software project.
5	Understand the role of SRS in a project and how requirements are validated
6	Know the key design concepts of software engineering.
7	Learn the structured code inspection process

8	Learn how testing is planned and testing done

SL No.	Lecture No.	Module/Unit No.	Topic To Be Taught	Cos	Reference Material Links
1	1	I	Program vs. Software product	Cos 1	
2	2	I	Emergence of Software Engineering	Cos 1	
3	3	I	Computer Systems Engineering	Cos 1	
4	4	I	Software Life Cycle Models	Cos 1	
5	5	I	REVISION	Cos 1	
6	6	I	ASSIGNMENT-1	Cos 1	
7	7	I	CLASS TEST-1	Cos 1	
8	8	II	Responsibility of Project Manager	Cos 2	
9	9	II	Project Planning	Cos 2	
10	10	II	Metrics for Project size estimation	Cos 2	
11	11	II	Project Estimation Techniques	Cos 2	
12	12	II	COCOMO Models, Basic, Intermediate and complete	Cos 2	
13	13	II	Scheduling	Cos 2	
14	14	II	Organization and Team structure	Cos 2	
15	15	II	Staffing	Cos 2	
16	16	II	Risk Management	Cos 2	
17	17	II	Configuration Management	Cos 2	
18	18	II	RIVISION	Cos 2	
19	19	II	ASSIGNMENT-2	Cos 2	
20	20	II	CLASS TEST-2	Cos 2	
21	21	III	Requirements gathering and analysis	Cos 3	
22	22	III	Software Requirements Specification	Cos 3	
23	23	III	RIVISION	Cos 3	
24	24	III	ASSIGNMENT-3	Cos 3	
25	25	III	CLASS TEST-3	Cos 3	
26	26	IV	What is a Good S/W design	Cos 4	
27	27	IV	Cohesion and coupling	Cos 4	

28	28	IV	Neat arrangement	Cos 4	
29	29	IV	S/W Design approaches	Cos 4	
30	30	IV	Structured analysis	Cos 4	
31	31	IV	Data FlowDiagrams	Cos 4	
32	32	IV	Symbols used in DFD	Cos 4	
33	33	IV	Designing DFD	Cos 4	
34	34	IV	Developing DFD model of a system	Cos 4	
35	35	IV	Shortcomings of DFD	Cos 4	
36	36	IV	Structured design	Cos 4	
37	37	IV	Principles of transformation of DFD to Structure Chart	Cos 4	
38	38	IV	Transform analysis and Transaction Analysis	Cos 4	
39	39	IV	Design Review	Cos 4	
40	40	IV	REVISION	Cos 4	
41	41	IV	ASSIGNMENT-4	Cos 4	
42	42	IV	CLASS TEST-4	Cos 4	
43	43	V	Characteristics of Good Interface	Cos 5	
44	44	V	Basic concepts of UID	Cos 5	
45	45	V	Types of User interfaces	Cos 5	
46	46	V	Components based GUI development	Cos 5	
47	47	V	RIVISION	Cos 5	
48	48	V	ASSIGNMENT-5	Cos 5	
49	49	V	CLASS TEST-5	Cos 5	
50	50	VI	Coding	Cos 6	
51	51	VI	Code Review	Cos 6	
52	52	VI	Testing	Cos 6	
53	53	VI	Unit testing	Cos 6	
54	54	VI	Black Box Testing	Cos 6	
55	55	VI	Equivalence class partitioning and boundary value analysis	Cos 6	
56	56	VI	White Box Testing	Cos 6	

57	57	VI	Debugging guidelines	Cos 6	
58	58	VI	REVISION	Cos 6	
59	59	VI	ASSIGNMENT-6	Cos 6	
60	60	VI	CLASS TEST-6	Cos 6	
61	61	VII	Software Reliability	Cos 6	
62	62	VII	Different reliability metrics	Cos 6	
63	63	VII	Reliability growth modeling	Cos 6	
64	64	VII	Software quality	Cos 6	
65	65	VII	Software Quality Management System	Cos 6	
66	66	VII	REVISION	Cos 6	
67	67	VII	ASSIGNMENT-7	Cos 6	
68	68	VII	CLASS TEST-7	Cos 6	

Signature of Faculty

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Principal

	CAPITAL SCHOOL OF ENGINEERING
PLOT NO. 1288, MAHATAPALLA, BAJAPUR, KHURDA,PIN-752060	
Session: 2023-2024	
Course Name: DIPLOMA	**Branch Name:** COMPUTER SCIENCE
Subject Name: TH 2 : Internet and Web Technology	**Theory/Practical:** Theory
Section: A	**Teacher Name:** DEBASISH MOHAPATRA
Semester: 5	

Credit '4' External Evaluation(Marked) '' Internal Evaluation(Marked) ''

Text Books:

Sl.No	Text Books
1	Internet and Web Designing by Neha Dutta, Adesh Pandey
2	Web Technologies by U.K Roy

Reference books:

Sl.No	Reference books
1	Internet & Web page Design by Sisodia

Course Outcomes:

Sl.No	Course Outcomes
1	Understand the concept of Internet and its wide application in various areas.
2	Understand different internet connectivity and ISP.
3	Understand the Internet security and Applications
4	Know the methods of development of Portals using HTML
5	Know the Client side Scripting using JavaScript
6	Know the what is ASP and what can it do

Sl. No.	Lecture No.	Module/Unit No.	Topic To Be Taught	Cos	Reference Material Links
1	1	I	Computer network	Cos 1	
2	2	I	Concept of Internet, Intranet, Modem	Cos 1	
3	3	I	IP Address, Internet Domains, CIDR Notation, ISP, TCP/IP	Cos 1	
4	4	I	REVISION	Cos 1	
5	5	I	ASSIGNMENT-1	Cos 1	
6	6	I	CLASS TEST-1	Cos 1	
7	7	II	Medium and methods of connectivity, ISDN, VSAT, RF Link	Cos 2	
8	8	II	Introduction to WWW, Application Level Protocol	Cos 2	
9	9	II	Web Browser, URL, Hyper text, Hyperlinks, Hypermedia	Cos 2	
10	10	II	Search Engine, Proxy sever, CGI, URI, Dreamweaver	Cos 2	
11	11	II	REVISION	Cos 2	
12	12	II	ASSIGNMENT-2	Cos 2	
13	13	II	CLASS TEST-2	Cos 2	
14	14	III	Introduction to security	Cos 3	
15	15	III	Types of security, Authentication & Authorization	Cos 3	
16	16	III	Firewalls, Encryption & Decryption, SSL	Cos 3	
17	17	III	REVISION	Cos 3	
18	18	III	ASSIGNMENT-3	Cos 3	
19	19	III	CLASS TEST-3	Cos 3	
20	20	IV	E-Mail, Email protocols	Cos 4	
21	21	IV	Newsgroup	Cos 4	
22	22	IV	Video Conferencing	Cos 4	
23	23	IV	REVISION	Cos 4	

24	24	IV	ASSIGNMENT-4	Cos 4	
25	25	IV	CLASS TEST-4	Cos 4	
26	26	V	Static Websites	Cos 4	
27	27	V	Web portals	Cos 4	
28	28	V	RSS Feed, Blog, Netiquette	Cos 4	
29	29	V	REVISION	Cos 4	
30	30	V	ASSIGNMENT-5	Cos 4	
31	31	V	CLASS TEST-5	Cos 4	
32	32	VI	Design a webpage, Good Web Design	Cos 5	
33	33	VI	HTML Tags, Anchor Tag, Table Tag	Cos 5	
34	34	VI	Separating style from structure with style sheets	Cos 5	
35	35	VI	CSS Rules, Types of CSS	Cos 5	
36	36	VI	REVISION	Cos 5	
37	37	VI	ASSIGNMENT-6	Cos 5	
38	38	VI	CLASS TEST-6	Cos 5	
39	39	VII	Variables in JavaScript, Built-in Function	Cos 5	
40	40	VII	Arrays in JavaScript, Conditional statements, Loops	Cos 5	
41	41	VII	Creating Functions, objects in JavaScript	Cos 5	
42	42	VII	Embedding JavaScript with HTML	Cos 5	
43	43	VII	Working with Cookies	Cos 5	
44	44	VII	Connecting database using JavaScript in HTML Page	Cos 5	
45	45	VII	Working with Browser, validating and submitting Forms	Cos 5	
46	46	VII	REVISION	Cos 5	
47	47	VII	ASSIGNMENT-7	Cos 5	
48	48	VII	CLASS TEST-7	Cos 5	
49	49	VIII	Introduction to server side Scripting	Cos 6	

50	50	VIII	Components of SSS	Cos 6	
51	51	VIII	Difference between CSS and SSS	Cos 6	
52	52	VIII	Server side Scripting method	Cos 6	
53	53	VIII	JavaScript on server	Cos 6	
54	54	VIII	REVISION	Cos 6	
55	55	VIII	ASSIGNMENT-8	Cos 6	
56	56	VIII	CLASS TEST-8	Cos 6	
57	57	IX	Variables, string, operator types	Cos 6	
58	58	IX	Conditional statement, Loops	Cos 6	
59	59	IX	Array	Cos 6	
60	60	IX	GET and POST Method and Sessions	Cos 6	
61	61	IX	REVISION	Cos 6	
62	62	IX	ASSIGNMENT-9	Cos 6	
63	63	IX	CLASS TEST-9	Cos 6	

Signature of Faculty

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	CAPITAL SCHOOL OF ENGINEERING
PLOT NO. 1288, MAHATAPALLA, BAJAPUR, KHURDA,PIN-752060	
Session: 2023-2024	
Course Name: DIPLOMA	**Branch Name:** COMPUTER SCIENCE
Subject Name: TH 4 : Computer Hardware and Maintenance	**Theory/Practical:** Theory
Section: A	**Teacher Name:** BIJAYA KUMAR ROUT
Semester: 5	

Credit '4' External Evaluation(Marked) '' Internal Evaluation(Marked) ''

Text Books:

Sl.No	Text Books
1	Computer Management & Planning BY Utpal Banarji
2	PC Hardware BY B. Singh

Reference books:

Sl.No	Reference books
1	PC Repair and Maintenance, BY J Raventhal,
2	Computer Installation and servicing BY D.Balsubramanian

Course Outcomes:

Sl.No	Course Outcomes
1	Know about the manpower engaged in computer centre
2	Know about the site preparation for computer centre furnishing
3	Know about the details of Motherboard
4	Know about the different components of computers
5	Know about the working principles of different I/O devices
6	Trouble shoot both Desktop and Laptop computers

Sl. No.	Lecture No.	Module/Unit No.	Topic To Be Taught	Cos	Reference Material Links
1	1	I	Need of Management in Computer Centre	Cos 1	
2	2	I	Types of Jobs carried out in computers in an organization	Cos 1	
3	3	I	Duties and responsibilities of personnel involved	Cos 1	
4	4	I	Need of Training of Staff	Cos 1	
5	5	I	Idea about Various makes of Computers	Cos 1	
6	6	I	RIVISION	Cos 1	
7	7	I	ASSIGNMENT-1	Cos 1	
8	8	I	CLASS TEST-1	Cos 1	
9	9	II	Layouts of computer centre	Cos 2	
10	10	II	False Roofing, Air Conditioning, Dust Proofing	Cos 2	
11	11	II	Power Conditioning equipments like CVT, UPS, Isolation Circuits with Principles of functioning	Cos 2	
12	12	II	RIVISION	Cos 2	
13	13	II	ASSIGNMENT-2	Cos 2	
14	14	II	CLASS TEST-2	Cos 2	
15	15	III	Components and slots	Cos 3	
16	16	III	Mother architecture and Block Diagram	Cos 3	
17	17	III	Processors	Cos 3	
18	18	III	Chip Sets	Cos 3	
19	19	III	Bus Standards: PCI, AGP, USB	Cos 3	
20	20	III	Colour Codes for Devices/ports	Cos 3	
21	21	III	RIVISION	Cos 3	
22	22	III	ASSIGNMENT-3	Cos 3	
23	23	III	CLASS TEST-3	Cos 3	
24	24	IV	Primary and secondary Memory	Cos 4	

25	25	IV	Memory speed , Access time	Cos 4	
26	26	IV	Hard Disk, Construction, Working Principles	Cos 4	
27	27	IV	File System, Formatting, Partitioning	Cos 4	
28	28	IV	Removable Storage and Special devices and their working principles	Cos 4	
29	29	IV	Key Board	Cos 4	
30	30	IV	Mouse Interfacing	Cos 4	
31	31	IV	Printers	Cos 4	
32	32	IV	Scanner	Cos 4	
33	33	IV	REVISION	Cos 4	
34	34	IV	ASSIGNMENT-4	Cos 4	
35	35	IV	CLASS TEST-4	Cos 4	
36	36	V	Displays and Graphics Cards	Cos 5	
37	37	V	LCD,PLASMA,TFT,LED Displays	Cos 5	
38	38	V	SMPS	Cos 5	
39	39	V	BIOS	Cos 5	
40	40	V	POST	Cos 5	
41	41	V	REVISION	Cos 5	
42	42	V	ASSIGNMENT-5	Cos 5	
43	43	V	CLASS TEST-5	Cos 5	
44	44	VI	Assembly of Components of Desktop Computers	Cos 6	
45	45	VI	Configuring Laptops and Power settings	Cos 6	
46	46	VI	Laptop Components	Cos 6	
47	47	VI	Formatting , Partitioning and installation of OS	Cos 6	
48	48	VI	Basic Maintenance concepts	Cos 6	
49	49	VI	Diagnostic programs and tools	Cos 6	
50	50	VI	Methods of Trouble shooting	Cos 6	
51	51	VI	Virus concepts, Antivirus	Cos 6	
52	52	VI	REVISION	Cos 6	

53	53	VI	ASSIGNMENT-6	Cos 6	
54	54	VI	CLASS TEST-6	Cos 6	
55	55	VII	Network Interface card	Cos 6	
56	56	VII	Networking interconnecting devices such as hub, switch, Router	Cos 6	
57	57	VII	Types of Network cable	Cos 6	
58	58	VII	Types of Network connector	Cos 6	
59	59	VII	REVISION	Cos 6	
60	60	VII	ASSIGNMENT-7	Cos 6	
61	61	VII	CLASS TEST-7	Cos 6	

Faculty Name

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