॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड – ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994. Recognized By the UGC U/s 2(f) and 12(B). NAAC Re-accredited with 'B++' grade

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विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत राष्ट्रीय शैक्षणिक धोरण २०२० नुसार पदवी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) शैक्षणिक वर्ष २०२४–२५ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, या विद्यापीठा अंतर्गत येणा–या सर्व संलग्नित महाविद्यालयामध्ये शैक्षणिक वर्ष २०२४–२५ पासून पदवीस्तरावर राष्ट्रीय शैक्षणिक धोरण –२०२० लागू करण्याच्या दृष्टीकोनातून विज्ञान व तंत्रज्ञान विद्याशाखे अंतर्गत येणा–या अभ्यासमंडळांनी तयार केलेल्या पदवी प्रथम वर्षाचे अभ्यासक्रमांना मा. विद्यापरिषदेने दिनांक १५ मे २०२४ रोजी संपन्न झालेल्या बैठकीतील विषय क्रमांक १५/५९–२०२४ च्या ठरावाअन्वये मान्यता प्रदान केली आहे. त्यानुसार विज्ञान व तंत्रज्ञान विद्याशाखेतील खालील बी. एस्सी प्रथम वर्षाचे अभ्यासक्रम (Syllabus) लागू करण्यात येत आहेत.

1) B. Sc. I year – Computer Science
2) B. Sc. I year – Computer Application
3) B. Sc. I year – Information Technology
4) B. Sc. I year – Computer Maintainance
5) B. Sc. I year – Computer Science (Single Major)
6) B. Sc. I year - Computer Network Technology (Single Major)
7) B. Sc. I year - Software Engineering (Single Major)
8) B. Sc. I year - Information Technology (Single Major)
9) B. Sc. I year - Computer Management (Single Major

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शै–१/एनइपी/विवत्रंविपदवी/२०२४–२५/९५४
दिनांक १६.०७.२०२४

डॉ. सरिता लोसरवार
सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत : १) मा. आधिष्ठाता, विज्ञान व तंत्रज्ञान विद्याशाखा, प्रस्तुत विद्यापीठ.
२) मा. संचालक, परीक्षा व मुल्यमापन मंडळ, प्रस्तुत विद्यापीठ.
३) मा. प्राचार्य, सर्व संबधित संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
४) मा. संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ
५) मा. प्राचार्य, न्यू मॉडल डिग्री कॉलेज हिंगोली.
६) सिस्टीम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ. याना देवून कळविण्यात येते की, सदर परिपत्रक संकेतस्थळावर प्रसिध्द करण्यात यावे.

SWAMI RAMANAND TEERTH
MARATHWADA UNIVERSITY,
NANDED - 431 606 (MS)

(Credit Framework and Structure of

B.Sc. Information Technology (Single Major)

First Year

with Multiple Entry and Exit Options as per NEP-2020)

UNDERGRADUATE PROGRAMME OF

SCIENCE & TECHNOLOGY

Major in **INT** and Minor in **DSM** (Information Technology)

Under the Faculty of Science & Technology

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Science and Technology (Three Optional in the First Year)

Credit Framework for Four Year Multidisciplinary Degree Program with Multiple Entry and Exit

Subject: INT (Major) /DSM (Minor 1 and Minor 2)

B.Sc. Information Technology (Single Major) First Year

Eligibility:12th Arts/Commerce/Science/MCVC

Year & Level	Semester	Optional 1 (Major) *(From the same Faculty)*	Optional 2 (Minor 1) *(From the same Faculty)*	Optional 3 (Minor 2) *(From the same Faculty)*	Generic Elective (GE) (select from Basket 3 of *Faculties other than Science and Technology*)	Vocational & Skill Enhancement Course	Ability Enhancement Course (AEC) (Basket 4) Value Education Courses (VEC) / Indian Knowledge System (IKS) (Basket 5) *(Common across all faculties)*	Field Work / Project/Internship/ OJT/ Apprenticeship / Case Study Or Co-curricular Courses (CCC) (Basket 6 for CCC) *(Common across all faculties)*	Credits	Total Credits
1	2	3	4	5	6	7	8	9	10	11
1 (4.5)	I	SINTCT1101 (T 2Cr) SINTCP1101 (P 2Cr) 4 Credits	SINTMT1101 (T 2Cr) SINTMP1101 (P 2Cr) 4 Credits	SINTMT1102 (T 2Cr) SINTMP1102 (P 2Cr) 4 Credits	SINTGE1101 2 Credits	SINTSC1101 2 Credits	AECENG1101 (2Cr) ACEMIL1101 (2Cr) IKSXXX1101 (2Cr) 6 Credits		22	44
	II	SINTCT1151 (T 2Cr) SINTCP1151 (P 2Cr) 4 Credits	SINTMT1151 (T 2Cr) SINTMP1151 (P 2Cr) 4 Credits	SINTMT1152 (T 2Cr) SINTMP1152 (P 2Cr) 4 Credits	SINTGE1151 2 Credits	SINTSC1151 2 Credits	AECENG1151 (2Cr) ACEMIL1151 (2Cr) VECCOI1151 (2Cr) *Constitution of India* 6 Credits		22	
	Cum. Cr.	08	08	08	04	04	08	04	44	

***Exit option*: UG Certificate in Opt 1, Opt 2 and Opt 3 on completion of 44 credits** and additional **4 credits from NSQF / Internship**

Abbreviations:

1. **DSC:** Department/Discipline Specific Core (Major)
2. **DSE:** Department/Discipline Specific Elective (Major)
3. **DSM:** Discipline Specific Minor
4. **GE/OE:** Generic/Open Elective
5. **VSEC:** Vocational Skill and Skill Enhancement Course
6. **VSC:** Vocational Skill Courses
7. **SEC:** Skill Enhancement Courses
8. **AEC:** Ability Enhancement courses
9. **MIL:** Modern Indian languages
10. **IKS:** Indian Knowledge System
11. **VEC:** Value Education Courses
12. **OJT:** On Job Training: (Internship/Apprenticeship)
13. **FP:** Field Projects
14. **CEP:** Community Engagement and Service
15. **CC:** Co-Curricular Courses
16. **RM:** Research Methodology
17. **RP:** Research Project/Dissertation
18. **INT** Information Technology

B. Sc. Information Technology First Year Semester I *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SINTCT1101	Logic Building with C	02	--	**04**	02	--
	SINTCP1101	Logic Building with C (P)	-	02			04
Optional 2	SINTMT1101	Web Technology	02	--	**04**	02	--
	SINTMP1101	Web Technology (P)	-	02			04
Optional 3	SINTMT1102	Introduction to RDBMS	02	--	**04**	02	--
	SINTMP1102	Introduction to RDBMS (P)	-	02			04
Generic Electives *(from other Faculty)*	SINTGE1101	Basics of Info. Tech./ Intellectual Property Rights **(Basket 3 of respective Faculty)**	02	--	**02**	02	--
Skill Based Course (related to Major)	SINTSC1101	Office Automation	--	02	**02**	--	04
Ability Enhancement Course	AECENG1101	L1 – Compulsory English	02	--	**02**	02	--
Indian Knowledge System (IKS)	IKSXXX1101	Select from **Basket 5**	02	--	**02**	02	--
Ability Enhancement Course (MIL)	**ACEMIL1101**		02	--	**02**	02	--
Total Credits			**14**	**08**	**22**	**14**	**16**

B. Sc. Information Technology First Year Semester I *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (***CA***) and 80% End Semester Assessment (***ESA***)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	Course Name (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SINTCT1101	Logic Building with C	10	10	10	40	--	--	50
	SINTCP1101	Logic Building with C (P)	--	--	--	--	20	30	50
Optional 2	SINTMT1101	Web Technology	10	10	10	40	--	--	50
	SINTMP1101	Web Technology (P)	--	--	--	--	20	30	50
Optional 3	SINTMT1102	Introduction to RDBMS	10	10	10	40	--	--	50
	SINTMP1102	Introduction to RDBMS (P)	--	--	--	--	20	30	50
Generic Elective	SINTGE1101	Basics of Info. Tech./ Intellectual Property Rights **(Basket 3)**	10	10	10	40	--	--	50
Skill Based Course	SINTSC1101	Office Automation	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1101	**L1 – Compulsory English**	10	10	10	40	--	--	50
Indian Knowledge System	IKSXXX1101	Title **(Basket 5)**	10	10	10	40	--	--	50
Ability Enhancement Course (MIL)	**ACEMIL1101**		10	10	10	40	--	--	50

B. Sc. Information Technology First Year Semester II *(Level 4.5)*

Teaching Scheme

	Course Code	Course Name	Credits Assigned			Teaching Scheme (Hrs/ week)	
			Theory	Practical	Total	Theory	Practical
Optional 1	SINTCT1151	OOP's with JAVA	02	--	**04**	02	--
	SINTCP1151	OOP's with JAVA (P)	-	02			04
Optional 2	SINTMT1151	Computer Network	02	--	**04**	02	--
	SINTMP1151	Computer Network (P)	-	02			04
Optional 3	SINTMT1152	Operating System	02	--	**04**	02	--
	SINTMP1152	Operating System (P)	-	02			04
Generic Electives *(from other Faculty)*	SINTGE1151	Digital Marketing / Statistical Methods **(Basket 3 of respective Faculty)**	02	--	**02**	02	--
Skill Based Course (related to Major)	SINTSC1151	Cascading Style Sheet	--	02	**02**	--	04
Ability Enhancement Course	AECENG1151	L1 – Compulsory English	02	--	**02**	02	--
Value Education Courses (VEC)	VECCOI1151	Constitution of India **Basket 5**	02	--	**02**	02	--
Ability Enhancement Course (MIL)	**ACEMIL1151**		02	--	**02**	02	--
Total Credits			**14**	**08**	**14**	**08**	**22**

B. Sc. Information Technology First Year Semester II *(Level 4.5)*

Examination Scheme

[20% Continuous Assessment (***CA***) and 80% End Semester Assessment (***ESA***)]

(For illustration we have considered a paper of 02 credits, 50 marks, need to be modified depending on credits assigned to individual paper)

Subject (1)	Course Code (2)	Course Name (3)	Theory				Practical		Total Col (6+7) / Col (8+9) (10)
			Continuous Assessment (CA)			ESA			
			Test I (4)	Test II (5)	Average of T1 & T2 (6)	Total (7)	CA (8)	ESA (9)	
Optional 1	SINTCT1151	OOP's with JAVA	10	10	10	40	--	--	50
	SINTCP1151	OOP's with JAVA (P)	--	--	--	--	20	30	50
Optional 2	SINTMT1151	Computer Network	10	10	10	40	--	--	50
	SINTMP1151	Computer Network (P)	--	--	--	--	20	30	50
Optional 3	SINTMT1152	Operating System	10	10	10	40	--	--	50
	SINTMP1152	Operating System (P)	--	--	--	--	20	30	50
Generic Elective	SINTGE1151	Digital Marketing / Statistical Methods **(Basket 3)**	10	10	10	40	--	--	50
Skill Based Course	SINTSC1151	Cascading Style Sheet	--	--	--	--	20	30	50
Ability Enhancement Course	AECENG1151	**L1 – Compulsory English**	10	10	10	40	--	--	50
Value Education Courses (VEC)	VECCOI1151	Constitution of India **Basket 5**	10	10	10	40	--	--	50
Ability Enhancement Course (MIL)	**ACEMIL1151**		10	10	10	40	--	--	50

Course Structure: *Major 1 -Teaching Scheme*

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTCT1101	Logic Building with C	10	10	10	40	--	--	50

Major 1 -Assessment Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTCT1101	Logic Building with C	02	--	02	--	02

SINTCT1101: *Logic Building with C (Major 1) Curriculum Details*

Course pre-requisite:

Basic knowledge of programming

Course Objectives:

- To develop a programming logic
- To develop competency for the design, coding and debugging
- To acquire the fundamental principles, concepts and constructs of computer programming

Course Outcomes:

Students will be able to:

- Write, debug and execute simple programs in 'C'
- Apply programming logic to solve real world problems
- Implements the structure and pointers
- Perform operations on Array and String

SINTCT1101: *Logic Building with C (Major 1) Curriculum Details*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Basics of C Programming**	**7**
	1.1	Application areas of C Language.	
	1.2	Algorithm	
	1.3	Structure of a 'C' program.	
	1.4	Variables, Data Types	
	1.5	Operators	
	1.6	Formatted input and output	
2.0		**Control Structures & Functions**	**8**
	2.1	Decision making statement: - if, if-else, switch.	
	2.2	Loops: - while, do while, for.	
	2.3	Use of break, continue and goto.	
	2.4	Function and Types of function, Recursion.	
3.0		**Arrays & String**	**8**
	3.1	Arrays Operations - declaration, initialization, accessing array elements.	
	3.2	Types of Arrays	
	3.3	Standard library functions	
	3.4	Storage Classes	
4.0		**Pointer And Structure**	**7**
	4.1	What is Pointer, declaration and initialization	
	4.2	Creating structure	
	4.3	Accessing Structure member using (dot operator)	
	4.4	Pointer and array, function, structure	
		Total	**30**

Text Books:

1. Complete C Reference – Herbert Schildt
2. Pointer in C – YeshwantKanetkar.

Reference Books:

1. Structured Programming approach using C – Forouzan and Gilberg, Thomson learning publications
2. The C Programming language – Kernighan and Ritchie

Course Structure: *Major 1 -Teaching Scheme*

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTCP1101	Logic Building with C	--	--	--	--	20	30	50

Major 1 -Assessment Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTCP1101	Logic Building with C	--	04	--	02	02

SINTCP1101: *Logic Building with C (Major 1) Curriculum Details*

Note: - Conduct 15 practical on given contents.

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMT1101	Web Technology	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMT1101	Web Technology	10	10	10	40	--	--	50

SINTMT1101: *Web Technology (Major 1) Curriculum Details*

Course pre-requisite:

1. Should have knowledge about basic operation of computer.
2. Should have basic knowledge about internet.

Course Objectives:

- To improve the skill to create the static web page.
- To develop the ability to create the dynamic web pages.
- To enhance the ability of Insert a graphic within a web page.
- To improve the skills to Create, validate and publish a web page

Course Outcomes:

Students will be able to:

- Design and implement dynamic websites
- Implement new html 5 tags.

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Introduction of Web**	**7**
	1.1	History of WWW.	
	1.2	Role of Web browser and web Server.	
	1.3	Client side Programming	
	1.4	IDE applications of HTML.	
	1.5	Web Protocols HTTP, FTP	
2.0		**Introduction of HTML**	**8**
	2.1	Structure of HTML	
	2.2	What is Tags & attributes of HTML	
	2.3	Create web page using Headings ,Paragraph, BR & HR	
	2.4	Image Tag	
	2.5	Marquee Tag	
3.0		**Core Concepts of HTML**	**8**
	3.1	Creating Ordered & Unordered List	
	3.2	Creating Anchor Tag	
	3.3	Using frame in HTML	
	3.4	Creating Table in HTML	
	3.5	Creating Form Input and validation	
4.0		**HTML 5**	**7**
	4.1	Introduction to HTML 5	
	4.2	Advantage and Disadvantages	
	4.3	Elements in HTML 5	
		Total	**30**

Reference Books:

1. HTML The complete Reference -2nd Edition Thomas A. Powel Tata McGraw Hill publication

2. The complete Reference (HTML & XHTML)- 5th Edition Thomas A. Powel Tata McGraw Hill publication

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMP1101	Web Technology	--	04	--	02	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMP1101	Web Technology	--	--	--	--	20	30	50

SINTMP1101: *Web Technology (Major 1) Curriculum Details*

Note: - Conduct 15 practical on given contents.

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMT1102	Introduction to RDBMS	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMT1102	Introduction to RDBMS	10	10	10	40	--	--	50

SINTMT1102: *Introduction to RDBMS (Major 1) Curriculum Details*

Course pre-requisite:

1. Basic knowledge about DBMS

Course Objectives:

- To understand the features of Relational database.
- To use SQL- the standard language of relational databases for database operations.
- To understand the functional dependencies and design of the databases.

Course Outcomes:

Students will be able to:

- Design and implement a database schema for a given problem-domain using data model
- Understand the use of Structured Query Language (SQL) and learn SQL syntax for writing queries.
- Apply normalization techniques to normalize the databases.

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Introduction to DBMS**	**7**
	1.1	Introduction to DBMS and Purpose of Database Systems,	
	1.2	Database-System Applications, Data Abstraction and Database System Structure	
	1.3	Structure of relational databases, Domains, Relations	
	1.4	Keys – Super key, Candidate key, Primary key, Foreign key	
	1.5	Relational algebra	
	1.6	Basic Concepts of ER model	
	1.7	Entity Set, Relationship Sets and Weak Entity Sets	
	1.8	Mapping Cardinalities, E-R diagrams, Extended E-R Features	
2.0		**Relational Database Design**	**8**
	2.1	CODD's Rules	
	2.2	Relational Integrity: Domain, Referential Integrities, Enterprise Constraints	
	2.3	Features of Good Relational Designs	
	2.4	Normalization, Atomic Domains and First Normal Form	
	2.5	Decomposition using Functional Dependencies	
	2.6	2NF, 3NF, and BCNF	
3.0		**Basics of SQL**	**10**
	3.1	DDL, DML, DCL, Structure: Creation, Alteration	
	3.2	Defining constraints – Primary key, Foreign key, Unique key, Not null, Check	
	3.3	IN operator,	
	3.4	Functions - Aggregate Functions, Built-in Functions – Numeric, Date, String Functions	
	3.5	Set operations, sub-queries, correlated sub queries	
	3.6	Use of group by, having, order by	
	3.7	Join and its types	
	3.8	Exist, Any, All	
	3.9	View and its types	
4.0		**Transaction control commands and PL/SQL Concepts**	**5**
	4.1	Commit, Rollback, Save-point	
	4.2	Cursors	
	4.3	Stored Procedures	
	4.4	Stored Function	
	4.5	Database Triggers	
		Total	**30**

Reference Books:

1. A. Silberschatz, H.F. Korth and S. Sudarshan , ―Database System Concepts‖, McGraw Hill, 6th Edition.
2. C.J. Date, A. Kannan, S. Swamynathan ―An introduction to Database Systems‖, Pearson, 8th Edition
3. "Oracle Database 10g PL/SQL Programming" by Scott Urman , Ron Hardman, MichaleMc Laughlin, Oracle Press, TMH, ISBN-0-07-059779-0.
4. "Oracle Database 10g The Complete Reference" By Kevin Loney, Bob Bryla
5. Oracle SQL, PL/SQL the programming language of ORACLE 4th Edition by Ivan Bayross.

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMP1102	Introduction to RDBMS	--	04	--	02	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMP1102	Introduction to RDBMS	--	--	--	--	20	30	50

SINTMP1102: ***Introduction to RDBMS (Major 1) Curriculum Details***

Note: - Conduct 15 practical on given contents.

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTGE1101	Basics of Info. Tech	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTGE1101	Basics of Info. Tech	10	10	10	40	--	--	50

SINTGE1101: *Basics of Info. Tech. (Major 1) Curriculum Details*

Course pre-requisite:

1. Basic things related to computer

Course Objectives:

- Learn basic principles of computer.
- Learn input output devices.

Course Outcomes:

Students will be able to:

- Understand Basic Function of Devices like I/O, HDD etc.
- Understand the Fundamental of Software and Hardware.
- Understand the Concept of Operating System and Network.

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Introduction to Computer and History**	**8**
	1.1	Definition of Computer	
	1.2	Characteristics of Computer	
	1.3	Basic Computer Organization	
	1.4	Generations of Computer	
2.0		**Computer Peripherals & Memory**	**7**
	2.1	Input Devices :- Keyboard, Mouse, Trackball, Joystick	
	2.2	Output Devices :- Monitor, Printer, Projector, Biometric Devices	
	2.3	Computer Memory :- RAM, ROM, Cache Memory	
	2.4	Storage Devices	
3.0		**Compact Disk, Digital Versatile Disk**	**8**
	3.1	Hard Disk Drive	
	3.2	USB Flash Drive	
	3.3	Memory Card	
	3.4	Introduction to Computer Network & Internet	
4.0		**Definition of Network**	**7**
	4.1	Types of Network :- LAN,MAN,WAN	
	4.2	E-Mail	
	4.3	Web Browser	
	4.4	Types of Web Browser	
		Total	**30**

Reference Books:

1 Fundamental of Computer –5th& 6th Edition, P.K. Sinha, BPB Publication

2 Fundamental of Computer - V. Raja Raman, PHI Publication

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTGE1101	Intellectual Property Rights	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTGE1101	Intellectual Property Rights	10	10	10	40	--	--	50

SINTGE1101: *Intellectual Property Rights (Major 1) Curriculum Details*

Course pre-requisite:

1. Basic understanding of Intellectual Properties, Patents, Trademarks, Copyrights and designs

Course Objectives:

- To make the students aware of their rights for the protection of their invention done in their project work.
- To get registration in our country and foreign countries of their invention, designs and thesis or theory
- to identify the different types of IPR's.

Course Outcomes:

Students will be able to:

- Get awareness of acquiring the patent
- Learn to have copyright for their innovative works.
- Get the knowledge of plagiarism in their innovations which can be questioned legally

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Introduction to IPR**	**8**
	1.1	Meaning of property	
	1.2	Origin, Nature, Meaning of Intellectual Property Rights	
	1.3	Kinds of Intellectual property rights	
2.0		**Patent Rights and Copy Rights**	**7**
	2.1	Origin, Meaning of Patent	
	2.2	Types, Inventions which are not patentable	
	2.3	Registration Procedure	
	2.4	Rights and Duties of Patentee	
3.0		**Copy Rights and Trade Mark**	**8**
	3.1	Definition &Types of Copy Right	
	3.2	Registration procedure	
	3.3	Meaning & Nature of Trade Marks	
	3.4	Types, Registration of Trade Marks	
4.0		**Design**	**7**
	4.1	Definition, Object, Registration of Design	
	4.2	Cancellation of Registration	
	4.3	International convention on design	
	4.4	Functions of Design	
		Total	**30**

ReferenceBooks:

1. Intellectual Property Rights and the Law, Gogia Law Agency, by Dr. G.B. Reddy
2. Law relating to Intellectual Property, Universal Law Publishing Co, by Dr. B.L.Wadehra
3. IPR by P. Narayanan
4. Law of Intellectual Property, Asian Law House, Dr.S.R. Myneni.

Course Structure: *Skill based course -Teaching Scheme*

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTSC1101	Office Automation	--	--	--	--	25	25	50

Skill based course -Assessment Scheme

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTSC1101	Office Automation	--	02	--	02	02

SINTSC1101: Office Automation *(Skill based course) Curriculum Details*

1) Study of Word Opening screen
2) Study of EXCEL Opening screen
3) Study of PowerPoint Opening screen
4) Study of Access Opening screen
5) Study of Find and Replace Dialog Box in Microsoft Word
6) Study of Custom Dictionary & Go to Dialog Box
7) Study of Table Formatting
8) Study of mail merge
9) Study of creating charts.
10) Study of border and shading dialog box
11) Study of paragraph dialog box
12) Working of Formulas in Excel
13) Creating Presentation in Power Point
14) Creating database file in Access

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTCT1151	OOPS with Java	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTCT1151	OOPS with Java	10	10	10	40	--	--	50

SINTCT1101: *OOPS with JAVA (Major 1) Curriculum Details*

Course pre-requisite:

1. Basic knowledge of C programming language
2. Basic knowledge of RDBMS

Course Objectives:

- To understand the basic concepts and fundamentals of platform independent object oriented language.
- To demonstrate skills in writing programs using exception handling techniques and java 8 features.
- To understand streams and efficient user interface design techniques.

Course Outcomes:

Students will be able to:

- Use the syntax and semantics of java programming language and basic concepts of OOP.
- Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages
- Apply the concepts of Exception handling to develop efficient and error free codes.

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Java Fundamentals**	
	1.1	Java History and Java Architecture	**6**
	1.2	Java Program Structure	
	1.3	Command Line Arguments	
	1.4	Data Types and Variables	
	1.5	Flow Control Statements	
	1.6	Arrays	
2.0		**OOPS**	
	2.1	Classes and Objects	**10**
	2.2	Static members	
	2.3	Constructors	
	2.4	Encapsulation	
	2.5	Inheritance	
	2.6	this and super keyword	
	2.7	Polymorphism	
3.0		**Abstraction and Packages**	
	3.1	Abstract class and Abstract Methods	**4**
	3.2	Interfaces	
	3.3	Final Keyword	
	3.4	System Packages and User defined Packages	
4.0		**Exception Handling, Strings and Collections**	
	4.1	Try, catch block and finally clause	**10**
	4.2	User defined exceptions	
	4.3	String and StringBuffer class	
	4.4	ArrayList	
	4.5	Generics and Iterator	
	4.6	TreeSet and HashSet	
	4.7	HashMap	
		Total	**30**

ReferenceBooks:

1. Java The Complete Reference 9th Edition, Herbert Schildt, McGraw Hill Education
2. (India) Private Limited, New Delhi.
3. Java How to Program, Sixth Edition, H.M.Dietel and P.J.Dietel, Pearson Education/PHI
4. Introduction to Java programming, By Y.DanielLiang,Pearson Publication
5. An introduction to Java programming and object oriented application development, R. A. Johnson-Thomson

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTCP1151	OOPS with Java	--	04	--	02	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTCP1151	OOPS with Java	--	--	--	--	20	30	50

SINTCP1151: *OOPS with JAVA (Major 1) Curriculum Details*

Note: - Conduct 15 practical on given contents.

Course Structure: *Minor 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMT1151	Computer Network	02	--	02	--	02

Minor 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMT1151	Computer Network	10	10	10	40	--	--	50

SINTMT1151: *Computer Network (Minor 1) Curriculum Details*

Course pre-requisite:

1. Basic handling knowledge about Computers.
2. Basics about Computer Applications.

Course Objectives:

- Introduction fundamental concepts of computer networking.
- Introduce students with various concepts used in network
- Introduce various technologies and standards
- Allow the student to gain expertise in areas of networking

Course Outcomes:

Students will be able to:

- After completing this course the student get the knowledge and ability to:
- Understand basic computer network technology.
- Students can identify the different types of network topologies and protocols.
- Students can Identify the different types of network standards

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Basics of Computer Network**	**8**
	1.1	Computer Networking	
	1.2	Signals — Analog and Digital Signals	
	1.3	Parallel and Serial Transmission Mode	
	1.4	Data Transmission Media	
	1.5	Network topologies- BUS, STAR, RING, MESH	
	1.6	Network Types: LAN, MAN, WAN	
2.0		**Network Architecture and IP Address**	**7**
	2.1	Network Standards, Ethernet, Types of Ethernet	
	2.2	Client and Server Architecture	
	2.3	Internet verses Intranet	
	2.4	Connection Oriented & Connectionless Services	
	2.5	IP-address Classes	
	2.6	IPV4 vs IPV6	
3.0		**Protocols and Network Models**	**8**
	3.1	Network protocol: TCP/IP, SMTP	
	3.2	DHCP and DNS	
	3.3	OSI/ISO Reference Model	
	3.4	TCP/IP Reference Model	
	3.5	Switching - Circuit Switching, Packet Switching, Message Switching	
4.0		**Networking Devices and Advanced Networking**	**7**
	4.1	Network Devices - NIC Cards, Switch, Repeaters, Bridges, Gateways, Router.	
	4.2	WiFi vs WiMax	
	4.3	Cloud Computing	
	4.4	Internet Of Things (IOT)	
		Total	**30**

Reference Books:

1. Andrew S. Tannenbaum,"Computer Networks", (Third Edition), Prentice-Hall of India Pvt. Ltd, New Delhi.
2. Data Communication and Networking by Behrouz Forouzan, TATA McGraw Hill.
3. Gerd E. Keiser", Local Area Networks", Tata McGraw Hill Edition, New Delhi.

Course Structure: *Minor 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMP1151	Computer Network	--	04	--	02	02

Minor 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMP1151	Computer Network	--	--	--	--	20	30	50

SINTMP1151: *Computer Network (Minor 1) Curriculum Details*

Note: - Conduct 15 practical on given contents.

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMT1152	Operating System	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMT1152	Operating System	10	10	10	40	--	--	50

SINTMT1152: *Operating System (Major 1) Curriculum Details*

Course pre-requisite:

1. Basics of Computer
2. Computer Generations
3. I/O System of Computer

Course Objectives:

- Core Knowledge about Operating System

Course Outcomes:

Students will be able to:

- Built up base about Operating System
- Aware about Operating System Model
- Information about Process Management of Process Operating System
- Knowledge about File System Concept

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Operating System and System Structure**	**9**
	1.1	Operating System Concept : User View, System View, Defining OS	
	1.2	Computer System Organization and Architecture : Single Processor System and Multiprocessor System	
	1.3	Extended Machine Concept and Operating System Structure	
	1.4	An Operating System Resource Manager	
	1.5	Operating System Services	
	1.6	User Operating System Interface: 1) Command Interpreter 2) GUI	
	1.7	System Calls and Types of System Calls	
2.0		**Process Management and Multithreaded Programming**	**8**
	2.1	Process Concept and Process Scheduling	
	2.2	Scheduling Criteria	
	2.3	Scheduling Algorithms	
	2.4	Multithreading Models, Thread Libraries – threads	
3.0		**Memory Management**	**7**
	3.1	Introduction to Memory Management	
	3.2	Contiguous Memory Allocation 1) Memory Allocation 2) Fragmentation	
	3.3	Paging 1) Basic Method 2) Hardware Support	
	3.4	Segmentation 1) Basic Method 2) Hardware Support	
4.0		**File System**	**6**
	4.1	File System Concept	
	4.2	Access Methods 1) Sequential 2) Direct	
	4.3	Directory and Disk Structure	
	4.4	Allocation Methods	
	4.5	Free Space Management	
		Total	**30**

Reference Books:

1. Abraham Silberschatz, Peter Galvin, Greg Gagne", Operating System Concepts" WILEY India Edition 8 th Edition
2. Achyut Godbole, Atul Kahate "Operating Systems" , McGraw Hill Education Third Edition

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTMP1152	Operating System	--	04	--	02	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTMP1152	Operating System	--	--	--	--	20	30	50

SINTMP1152: *Operating System (Major 1) Curriculum Details*

Note: - Conduct 15 practical on given contents.

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTGE1151	Digital Marketing	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTGE1151	Digital Marketing	10	10	10	40	--	--	50

SINTGE1151: *Digital Marketing (Major 1) Curriculum Details*

Course pre-requisite:

1. Basic knowledge of computer.
2. Basic knowledge of internet

Course Objectives:

- To understand the basic Concepts of Digital marketing
- To understanding different tools of Digital marketing.

Course Outcomes:

Students will be able to:

- Get knowledge of local and global market.
- Get knowledge of POEM Framework.
- Get knowledge different ad formats

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Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Introduction to Digital Marketing**	**6**
	1.1	Fundamentals of Digital marketing & Its Significance	
	1.2	Traditional marketing Vs Digital Marketing	
	1.3	Evolution of Digital Marketing	
	1.4	Key Drivers, Netizen's expectation	
2.0		**Digital marketing Strategy**	**8**
	2.1	The Digital users in India	
	2.2	Consumer Decision journey	
	2.3	POEM Framework	
	2.4	Segmenting & Customizing messages	
3.0		**Digital Marketing Terminology**	**8**
	3.1	PPC and online marketing through social media	
	3.2	SEO techniques	
	3.3	Social Media Marketing	
	3.4	Email Marketing,	
	3.5	Mobile Marketing	
4.0		**Study of Tools**	**8**
	4.1	Display adverting	
	4.2	Different type of ad tools	
	4.3	Types of display ads	
	4.4	Different ad formats	
		Total	**30**

Reference Books:

1. Digital Marketing, S.Gupta, McGraw-Hill
2. Quick win Digital Marketing, H. Annmarie , A. Joanna, Paperback edition
3. Digital Marketing –Kamat and Kamat-Himalaya
4. Marketing Strategies for Engaging the Digital Generation, D. Ryan,
5. Digital Marketing, V. Ahuja, Oxford University Press

Course Structure: *Major 1 -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTGE1151	Statistical Methods	02	--	02	--	02

Major 1 -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)			
		Test I (4)	Test II (5)	Avg. of T1 & T2 (6)		CA (8)	ESA (9)	
SINTGE1151	Statistical Methods	10	10	10	40	--	--	50

SINTGE1151: *Statistical Method (Major 1) Curriculum Details*

Course pre-requisite:

1. Basic concept of statistics.
2. Calculate and Interact various measures of statistics.

Course Objectives:

- Interact ideas of random variable, frequency distribution, calculate and interact various measures in statistics

Course Outcomes:

Students will be able to:

- Explain the use of data collection & statistics.
- Recognize, examine & interact the basic principles of describing and presenting data.

Curriculum Details:*(There shall be FOUR Modules in each course)*

Module No.	Unit No.	Topic	Hrs. Required to cover the contents
1.0		**Introduction**	
	1.1	Definition of Statistic	
	1.2	Importance & Limitation of Statistics	
	1.3	Scope of Statistics (Computer Science, Industry, Economics)	**7**
	1.4	Collection of data	
	1.5	Frequency Distribution	
	1.6	Discrete & Continues variable	
2.0		**Measures of central Tendency**	
	2.1	Concept	
	2.2	Mean Definition ,formulae, Numerical example	
	2.3	Median Definition ,formulae, Numerical example	**8**
	2.4	Mode Definition ,formulae, Numerical example	
	2.5	Quartile Definition ,formulae, Numerical example	
	2.6	Merits and demerits of Mean median and mode	
3.0		**Correlation & Regression**	
	3.1	Concept	
	3.2	Types of correlation	
	3.3	Karl Pearson's coefficient of correlation	
	3.4	Numerical examples	**7**
	3.5	Regression	
	3.6	Regression equations/line	
	3.7	Numerical examples	
4.0		**Probability**	
	4.1	Definition	
	4.2	Sample space, Event, Types of event	
	4.3	Permutation & Combination	
	4.4	Theorems of probability a. $P(A)=1-P(A')$ b. $0 \leq P(A) \leq 1$ c. $P(A \cup B)=P(A)+P(B)-P(A \cap B)$	**8**
	4.5	Examples	
		Total	**30**

Reference Books:

1. "STATISTICAL METHODS" III Edition (2001) S P Gupta & Kapoor
2. "Business Statistics" II Edition (2005) Gupta and Kapoor
3. Foundation of Mathematics statistics – S. C. Gupta & V. K. Kapoor
4. Statistical methods – S. C. Gupta.

Course Structure: *Skill Based Course -Teaching Scheme*

Course Code	Course Name (Paper Title)	Teaching Scheme(Hrs.)		Credits Assigned		
		Theory	Practical	Theory	Practical	Total
SINTSC1151	CSS	--	02	--	02	02

Skill Based Course -Assessment Scheme

Course Code (2)	Course Name (3)	Theory				Practical		Total [Col (6+7) or Col (8+9)] (10)
		CA			ESA (7)	CA (8)	ESA (9)	
		Test I (4)	Test II (5)	Avg of T1 & T2 (6)				
SINTSC1151	CSS	--	-	--	--	20	30	50

SINTSC1151: *CSS (Skill Based Course) Curriculum Details*

Course pre-requisite:

1. Basic knowledge about web technology.
2. Basics about Computer Applications.

Course Objectives:

- Introduction fundamental concepts of web technology.
- Introduce students with various concepts of designing web page
- Introduce CSS technology of front end development.
- Allow the student to gain expertise in areas of front end development

Course Outcomes:

Students will be able to:

- After completing this course the student get the knowledge and ability to:
- Understand basic concept of CSS.
- Students can identify the different types of CSS implementation.
- Able to implement bootstrap in webpage.

Curriculum Details:*(There shall be FOUR Modules in each course)*

SR No.	Practical List
1.	WAP on inline CSS
2.	WAP on embedded CSS
3.	WAP on External CSS
4.	WAP on Applying CSS Properties
5.	WAP on Working with Lists using CSS
6.	WAP on Working with Tables using CSS
7.	WAP on CSS Selectors: Class and ID
8.	WAP on Applying Style with border-radius, text-shadow and box-shadow
9.	WAP on Applying CSS Display and Floating
10.	WAP on Creating table with bootstrap classes

Guidelines for the Course Assessment:

A. Continuous Assessment (CA) (20% of the Maximum Marks) of theory and practical courses:

i. **For Theory Course:** CA shall form 20% of the Maximum Marks and shall be carried out over the entire semester. It shall be done by conducting **Two Tests** (Test I on 40% curriculum) and **Test II** (on remaining 40% syllabus) and average of the marks scored by a student in these two tests of a particular paper shall be taken as the **CA** score.

ii. **For Practical Course:** CA score of the practical course shall be marks scored by a student in the internal practical examination conducted by the concerned teacher.

B. End Semester Assessment (80% of the Maximum Marks) of theory and practical courses:

(For illustration a paper of 02 credits, 50 marks has been considered and shall be modified appropriately depending upon credits of the individual paper)

Question Paper Pattern of the ESA:

i. **ESA Question paper shall consist 6 questions, each of 10 marks**
ii. **Question No.1 shall be compulsory and shall be based on the entire syllabus**
iii. Students shall have to solve ***ANY THREE*** of the remaining Five Questions (i.e. from question 2 to 6)
iv. **Students shall have to solve a TOTAL of 4 Questions.**

C. Assessment of On Job Training (OJT) Course (for 04 credits):

a. Continuous assessment part (**40%, 40 marks out of 100**) of this course shall be done by the mentor of the student, where he /she is supposed to complete his On Job Training. This shall be based on the regularity, participation and performance of the students at the place of OJT.

b. Semester End Assessment (ESA) (**60% of the total marks, 60 marks out of 100**) of this course shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks)** and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried to be assessed by the panel of examiners. This assessment shall be done along with practical examinations of respective courses / subjects.

D. Assessment of Field Project (FP) and Research Project (RP) (e.g. for 02 credits)

a. Continuous assessment part (**40%, 20 marks out of 50**) of this course shall be done by the mentor of the student and shall be based on regularity, experimental work and performance of the student.

b. Semester End Assessment (ESA) (**60% of the total marks, 30 marks out of 50**) of this course shall be done shall be done by a panel of examiners in two parts

i. based on the work report submitted by the student (**50% i.e. 30 marks)** and

ii. **Remaining 50%** (30 marks) shall be based on his presentation and viva-voce on the work carried out by the student. This assessment shall be done along with practical examinations of the respective courses / subjects.

E. Assessment of Co-Curricular courses (CCC):

a. Assessment of the CCC course shall be done by the respective course coordinator as a part of CA and be based on the regularity, performance of a student and his participation in various activities as prescribed in the regulations prepared in this regard.

b. The End Semester Assessment (ESA) of the CCC courses shall be done as per the regulations prepared in this regard and shall be done on the basis of the write-up, presentation by the student on the activities that he has carried out in a semester.

c. Students shall have freedom to opt for more than one CCC courses. However, score of the best performing CC shall be considered for preparing his result.

F. Syllabi, Teaching and Examination Scheme for the courses in Column 7 and Column 8 (AEC, VEC, IKS, CI, EVS, CCCs, etc.) shall be common for all the students from different faculties.

Note: Number of lectures required to cover syllabus of a course depends on the number of credits assigned to a particular course. One credit of theory corresponds to 15 Hours lecturing and for practical course one credit corresponds to 30 Hours. For example, for a course of two credits 30 lectures of one hour duration are assigned, while that for a three credit course45 lectures.

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