Jaypee Institute of Information Technology

M.TECH Biotechnology

SEMESTER III

Detailed Syllabus

Lecture-wise Breakup

Course Code	**17M17BT213**	**Semester ODD**	**Semester** III **Session** 2023-2024 **om** July to December
Course Name	**Dissertation**		
Credits	4	**Contact Hours**	8

Faculty (Names)	**Coordinator(s)**	Prof Sujata Mohanty
	Teacher(s) (Alphabetically)	Prof Sujata Mohanty

COURSE OUTCOMES		**COGNITIVE LEVELS**
C213.1	Identify the research problem and select suitable scientific methods to solve the given research problem	Applying Level 3
C213.2	Construct methodology to test the hypothesis	Apply level 3
C213.3	Analyze the key findings and interpret the data	Analyze Level 5
C213.4	Compose the written scientific report and effectively present the data	Analyze level 6

Detailed Syllabus Lecture-wise Breakup

Course Code	**19M12HS211**	Semester: Odd (specify Odd/Even)	Semester: III (MTech) Session: 2023 -2024 Month: from July to December		
Course Name	**Cost Accounting for Engineering Projects**				
Credits	03		Contact Hours	3-0-0	

Faculty (Names)	Coordinator(s)	Dr. Purwa Srivastava
	Teacher(s) (Alphabetically)	Dr. Purwa Srivastava

COURSE OUTCOMES		**COGNITIVE LEVELS**
C201.1	Understand basic concepts of Cost Accounting	Understand (C2)
C201.2	Apply concepts of cost in project management	Apply (C3)
C201.3	Analyze cost behavior for decision making	Analyze (C4)
C201.4	Evaluate different budgets for controlling the cost	Evaluate (C5)

Module No.	**Title of the Module**	**Topics in the Module**	**No. of Lectures for the module**
1.	Introduction	Introduction & Overview of Strategic Cost Management Process	2

2.	Cost Concepts	Relevant Cost, Differential Cost, Incremental Cost, Opportunity Cost, Objectives of a costing system, Inventory Valuation, Provision of data for decision making	4
3.	Project execution	Meaning, Different types, why to manage, cost overruns centres, various stages of project execution: conception to commissioning. Project execution as conglomeration of technical and nontechnical activities. Detailed Engineering activities.	5
4.	Project Execution & Quantitative techniques for cost management	Pre project execution main clearances and documents Project team: Role of each member. Importance Project site Data required with significance, Project contracts, Types and contents, Project execution, Project cost control, bar charts, Project commissioning, Linear Programming, PERT/CPM, Transportation problems, Assignment problems, Simulation, Learning Curve Theory	7
5.	Cost Behavior	Distinction between Marginal Costing and Absorption Costing; Break-even Analysis, Cost-Volume-Profit Analysis. Various decision-making problems.	6
6.	Profit Planning Marginal Costing	Standard Costing and Variance Analysis. Pricing strategies: Pareto Analysis. Target costing, Life Cycle Costing. Costing of service sector. Just-in-time approach,	6
7.	Material Planning	Material Requirement Planning, Enterprise Resource Planning, Total Quality Management and Theory of constraints. Activity-Based Cost Management, Bench Marking; Balanced Score Card & value chain analysis.	6

8.	Budgetary Control	Flexible budgets, Performance budgets, zero based budgets, Measurements of divisional profitability pricing decisions including transfer pricing.	6
Total number of Lectures			**42**

Evaluation Criteria

Components	**Maximum Marks**
T1	20
T2	20
End Semester Examination	35
TA	25 (Quiz+ project)
Total	**100**

Project based learning: students will form a group of four to five students. To make subject application based, students will apply various concepts such as Cost management and various types of Costing, project execution & quantitative techniques for cost management, cost behavior and profit planning. Students will apply these concepts on organization, or in any ongoing project or interdisciplinary base research project or any innovative idea in any particular industry along with feasibility.

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)

1. S. M. Datar and M. Rajan, *Horngren's Cost Accounting: A Managerial Emphasis. 16th ed*. Pearson Education, 2018.
2. B. M. L. Nigam and I. C. Jain, *Cost Accounting: Principles And Practice*, PHI Learning Pvt. Ltd. PHI Learning Pvt. Ltd., 2010.
3. R. S. Kaplan and A. A. Atkinson, *Advanced management accounting*. PHI Learning, 2015.
4. A. K. Bhattacharyya, *Principles and practice of cost accounting*. PHI Learning Pvt. Ltd., 2004.
5. N. D. Vohra, *Quantitative Techniques in Management, 3e*. Tata McGraw-Hill Education, 2006.
6. C. Drury, *Management and Cost Accounting ,10th edition, Cengage Learning*. 2017.
7. P. Chandra, *Projects-Planning Analysis, Selection, Implementation & Review 9e, Tata McGraw Hill, New Delhi.* 2019.

Seminar & Term paper (17M17BT211)

Integrated M.Tech X sem and M.Tech (2 year) III sem

Course Outcomes:

At the completion of the course, students will be able to,

Sl. No.	DESCRIPTION	COGNITIVE LEVEL
CO212.1	Make use of existing literature to define a research problem.	Apply Level(C3)
CO212.2	Survey the available scientific resources & databases to address the problem	Analyze Level (C4)
CO212.3	Evaluate and critique acquired knowledge	Evaluate Level (C5)
CO212.4	Conclude through oral and written scientific presentations	Evaluate Level (C5)

JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA

DEPARTMENT OF BIOTECHNOLOGY

COURSE DESCRIPTION

PROJECT BASED LEARNING-II (17M17BT112 / 17M17BT212)

END TERM VIVA MARKS: 52

DAY TO DAY MARKS: 48

Project Based Learning -II (17M17BT112) – Integrated M.tech (X Sem)				
	COURSE OUTCOMES	**Cognitive level**	**Assessment tool** **Direct (80%)**	**Assessment tool** **Indirect (20%)**
CO 1	Discuss the problem statement, its impact on society and approaches to circumvent, based on the literature survey	Understanding Level 2	**Viva-I** (Defining and Interpreting the research problem; Summarise and evaluate the current knowledge of the topic based on Literature reviewed**)**, **Day to Day Marks from Supervisors** ((Defining and Interpreting the research problem; Summarise and evaluate the current knowledge of the topic based on Literature reviewed**)**	Exit Survey

CO 2	Identify relevant theory and concepts, and relate these to appropriate methodologies and evidence	Understanding Level 2	**Viva-I** (Rational of the study & Objectives), **Day to Day Marks by Supervisor** (Rational of the study & Objectives), **Viva-II** (Strategic approach proposed for exploring answers to the research problem and attained); **Day to Day Marks by Supervisor (**Strategic approach proposed for exploring answers to the problem statement and attained**)**	Exit Survey
CO 3	Implement the proposed research strategy and relate methodologies to expected outcomes	Apply Level 3	Viva-I (Designing the research strategy / work plan**) Day to Day Marks by Supervisor (**Understanding of the proposed research strategy/ work plan**)**	Exit Survey

CO 4	Apply qualitative and/or quantitative evaluation processes to the experimental data	Apply Level 3	**Viva-II** (Research strategy followed and outcomes of the study), **Day to Day Marks by Supervisor** (Research strategy followed the outcomes of the study) **Viva-II** (Conclusion / Learning Outcome, Viva and Report), Day to **Day marks from Supervisor** (Conclusion / Learning Outcome, Report)	Exit Survey
CO 5	Demonstrate research concept, context clarity and experimental finding, through presentation skills and report writing	Apply Level 3	**Viva-II** (Presentation skills, Viva and Report), Day to **Day marks from Supervisor** (Presentation skills and Report)	Exit Survey

Project based learning: The students learn the importance of secondary data collection using databased, journals, periodicals and databases. They perform wet lab and in-silico, experimental studies, systematic review or survey based analysis to define the problem statement and learn biotechnological and allied approaches to answer the problem statements. Such knowledge help student to develop independent thinking and inculcate the practice of following good laboratory, scientific and ethical practices in their career

Detailed Syllabus Lecture-wise Breakup

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Course Name	**Cost Accounting for Engineering Projects**		
Credits	03	Contact Hours	3-0-0
Faculty (Names)	Coordinator(s)	Dr. Purwa Srivastava	
	Teacher(s) (Alphabetically)	Dr. Purwa Srivastava	

COURSE OUTCOMES		**COGNITIVE LEVELS**
C201.1	Understand basic concepts of Cost Accounting	Understand (C2)
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Total number of Lectures			**42**

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5.	N. D. Vohra, *Quantitative Techniques in Management, 3e*. Tata McGraw-Hill Education, 2006.
6.	C. Drury, *Management and Cost Accounting ,10th edition, Cengage Learning*. 2017.
7.	P. Chandra, *Projects-Planning Analysis, Selection, Implementation & Review 9e, Tata McGraw Hill, New Delhi.* 2019.

Detailed Syllabus

Lecture-wise Breakup

Course Code	**19M13HS211**	Semester: Odd	Semester: M.Tech III and M.Tech Integrated X Session: 2023 -2024 Month from: August-December 2023
Course Name	**Constitution of India**		
Credits	2	Contact Hours	2-0-0

Faculty (Names)	Coordinator(s)	Dr. Namreeta Kumari
	Teacher(s) (Alphabetically)	Dr. Namreeta Kumari

COURSE OUTCOMES		**COGNITIVE LEVELS**
C202.1	Demonstrate an understanding of the historical inheritances and institutional legacies of Indian Constitution	Understand (C2)
C202.2	Demonstrate an understanding of the powers and functions of the Indian executive, legislature and judiciary	Understand (C2)
C202.3	Assess the devolution of powers and authority of governance of the Union government and the local government	Evaluate (C5)
C202.4	Assess the nature of the Indian constitution and its applicability in the study of politics in India	Evaluate (C5)

Module No.	Title of the Module	Topics in the Module	No. of Lectures for the module
1.	History of Making of the Indian Constitution	· History · Drafting Committee- Composition & Working	2
2.	Philosophy of the India Constitution	· Preamble · Salient Features · Federalism	2
3.	Fundamental Rights and Directive Principles	· Right to Equality · Right to Freedom · Right against Exploitation · Right to Freedom of Religion · Cultural and Educational Rights · Right to Constitutional Remedies · Directive Principles of State Policy · Conflict between DPSP and FR · Fundamental Duties	5
4.	Organs of Governance	· Parliament-Composition, Qualifications & and Disqualification, Powers and Functions · Executive- President, Governor Council of Ministers · Judiciary-Appointment and Transfer of Judges, Qualifications, Power and Functions	8

5.	Local Administration	· District's Administration head: Role and Importance · Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation · Panchayati raj: Introduction, PRI: Zila Panchayat. · Elected officials and their roles, CEO Zila Panchayat: Position and role · Block level: Organizational Hierarchy (Different departments) · Village level: Role of Elected and Appointed officials · Importance of Grass root democracy	8
6.	Election Commission	· Election Commission: Role and Functioning	3
Total number of Lectures			**28**

Evaluation Criteria

Components	**Maximum Marks**
Mid Term:	30
End Semester Examination	40
TA	30 (Attendance,Quiz, Project)
Total	**100**

Recommended Reading material: Author(s), Title, Edition, Publisher, Year of Publication etc. (Text books, Reference Books, Journals, Reports, Websites etc. in the IEEE format)

1.	Austin, G. (1996). *The Indian Constitution: Corner Stone of a Nation*. Oxford: Oxford University Press
2.	Bakshi, P.M.(2015). *The Constitution of India*. Delhi: Universal Law Pub. Co. Pvt. Ltd
3.	Bhuyan, D. (2016). *Constitutional Government and Democracy in India*. Cuttack:Kitab Mahal..
4.	Busi, S.N. (2016). *Dr. B. R. Ambedkar framing of Indian Constitution*. Hyderabad*:*Ava Publishers
5.	Basu, D.D. (2018). *Introduction to the Constitution of India*. Nagpur: Lexis Nexis
6.	Jayal, N.G. & Mehta, P.B. (eds.)(2010). *The Oxford Companion to Politics in India*. New Delhi: Oxford University Press.
7.	Constitution series by Rajya Sabha Television and discussion on Indian Constitution by Rajya Sabha Television

Project: Projects based on the different aspects of the Indian Constitution have to be submitted by the students as a part of the project-based learning. This would help the students learn about the nitty gritty of the Constitution, their rights and duties which would later on help them not only in their work place but in their general life.