Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Semester-VIII

Industrial Management (HM 801 A)

Name of the Course:	**Industrial Management**
Course Code: HM 801 A	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 2 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points:2	

Objective: The course content should be taught and implemented with the aim to develop required skills in the students so that they are able to acquire following competencies.

1	Acquire basic knowledge n, understanding of basic functions of industry.
2	Recognize organization structure, human resource issues in industries and major provisions of factory acts.
3	Plan, use, monitor and control resources optimally and economically.

Pre-Requisite:

1	OE TT 501 A/B
2	

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of questions to be set	**Total marks**	**No. of questions to be set**	**To answer`**	**Marks per question**	**Total marks**
A	**1 to 7**	**10**	**10**				
B	**1 to 7**			**6**	**3**	**5**	**15**
C	**1 to 7**			**6**	**3**	**15**	**45**

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective part.**
- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	**Introduction** Development, application and scope of Industrial Management.	1	4
2	**Principles of Management** Management, different functions of management: Planning, organizing, coordination and control. Structure of an industrial organization. Functions of different departments., Relationship between individual departments. - Line, Line and staff and Functional relationships- Span of control- Delegation- Management by Objectives.	4	12
3	**Personnel management** Objectives and functions of personnel management- Recruitment- Selection and training of workers- Labour Welfare- Industrial Fatigue- Industrial disputes-Trade Unions- Quality circles. Formation of companies: Proprietory-Partnership-Joint stock companies- Public sector- Joint sector and Co-operative sector.	4	12
4	**Productivity** Definition, measurement. Work study and its role in improving productivity of an organization. Types of Production systems. Introduction to production planning and control.	4	12
5	**Finance management** Capital budgeting techniques, payback period, ARR, NPV, IRR, PI; Sources of capital; Costs concepts and Break even analysis.	6	20
6	**Production planning and Control (PPC).** Types and examples of production. PPC : i. Need and importance. ii. Functions. iii. Forms used and their importance. iv. General approach	6	20

	for each type of production. Scheduling- meaning and need for productivity and utilization. Gantt chart- Format and method to prepare, Critical ratio scheduling-method and numeric examples. Scheduling using Gantt Chart (for at least 5-7 components having 5-6 machining operations, with processes, setting and operation time for each component and process, resources available, quantity and other necessary data), At least two examples. Bottlenecking- meaning, effect and ways to reduce.		
7	**Recent Trends in IM.** ERP (Enterprise resource planning) - concept, features and applications, Logistics- concept, need and benefits, Just in Time (JIT)-concept and benefits, Supply chain management-concept and benefits.	5	20
	Total	30	100

Text and reference books:

1. Essentials of Management, Koontz a andO'Donne.
2. Finance Sense, Prasanna Chandra
3. Industrial Management, M E Thukaram Rao.
4. Modern Production Management. Buffa.
5. Industrial Engineering & Management. O. P. Khanna

Course Outcome:

After successful completion of this course, the students should be able to

1. Interpret given organization structure, culture, climate and major provisions of factory acts and laws.
2. Understand basic functions of industry.
3. Gather knowledge on current development and trends on Industry.
4. Explain production and productivity issue
5. List and explain PPC functions.
6. Plan, use, monitor and control resources optimally and economically.

Special Remarks (If any): NIL

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Production Planning & Control (HM 801B)

Name of the Course:	**Production Planning & Control**
Course Code: HM 801B	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 2 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points: 2	

Objective:	
1	To understand the problems and opportunities faced by the operations manager in manufacturing and service organizations.
2	To develop an ability to apply PPC concepts in a various areas like marketing, accounting, finance, engineering, personnel management, logistics, etc.
3	To integrate operations concepts with other functional areas of business
4	To understand the PPC function in both manufacturing and service organizations.
5	To examine several classic Operations Management planning topics including production planning and inventory control.
6	To learn several important contemporary topics relevant to business managers of all functional disciplines, including quality management, lean concepts, and sustainability

Pre-Requisite:	
1	OE TT 501 A/B
2	

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of	**Total marks**	**No. of**	**To**	**Marks per**	**Total marks**

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

		questions to be set		questions to be set	answer`	question	
A	**1 to 18**	**10**	**10**				
B	**1 to 18**			**6**	**3**	**5**	**15**
C	**1 to 18**			**6**	**3**	**15**	**45**

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective part.**
- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	Indian textile industry scenario, production and export, yarn, fabric and apparel sectors.	1	4
2	Textile Policy. Sickness in textile industry, analysis and options.	2	6
3	Production and operations management function.	1	4
4	Operation strategy, facility location and capacity planning	2	6
5	Production planning and control; aggregate planning, scheduling, PERT and CPM, product mix using linear programming concepts.	2	6
6	Inventory model and safety stock; optimal order quantity, economic manufacturing batch size.	2	6
7	Classification of materials, materials requirement planning, material store management and distribution management. Just in time concept.	1	4
8	Supply chain Management in textile industry	1	4
9	Maintenance management in textile industry	1	4
10	Plant modernisation	1	4
11	Motion and time study	1	4
12	Job evaluation and incentive scheme.	1	4
13	Productivity; partial and total productivity, machine, labour and energy productivity, efficiency and effectiveness, benchmarking, measure to increase productivity.	3	10

14	Forecasting; methods of forecasting, moving average, regression and exponential smoothing techniques, forecasting accuracy.	2	6
15	Total quality management and Six Sigma.	3	10
16	Product marketing and pricing for textile industry	2	6
17	Financial and profit analysis, investment decisions.	2	6
18	Management information system.	2	6
	Total	30	100

Text and reference books:

1. Production & Operations management by R. Panneerselvam
2. Operations and supply management by Chase, Ravi Shankar, Jacob & Aquilano
3. Operations management: Theory and Practice by B. Mahadevan
4. Operations management by Krajewski, Ritzman and Malhotra
5. Operations research: An introduction by H. A. Taha

Course Outcome:

After successful completion of this course, the students should be able to

1. Recognize the objectives, functions, applications of PPC and forecasting techniques.
2. Explain different inventory control techniques.
3. Solve routing and scheduling problems
4. Summarize various aggregate production planning techniques.
5. Describe way of integrating different departments to execute PPC functions

Special Remarks (If any): NIL.

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Merchandising (PE TT 801A)

Name of the Course:	**Merchandising**
Course Code: PE TT 801A	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 2 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points: 2	

Objective:	
1	To impart knowledge of merchandising and sourcing
2	To impart knowledge of merchandise mix management and strategies
3	To provide knowledge to make documentation
	To support in making action plan in timeframe

Pre-Requisite:	
1	PC TT 303
2	PC TT 501. PC TT 502, PC TT 504 OE TT 501 A/B
3	PC TT 604

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of questions to be set	**Total marks**	**No. of questions to be set**	**To answer`**	**Marks per question**	**Total marks**
A	**1 to 6**	**10**	**10**				
B	**1 to 6**			**6**	**3**	**5**	**15**
C	**1 to 6**			**6**	**3**	**15**	**45**

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective**

part.

- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/ Unit
1	**Introduction to merchandising** Functions of Merchandiser, Merchandising department organization chart, Merchandising communication, Tech-pack interpretation and updating	3	10
2	**Merchandising and Sourcing** **Merchandising:** functions of merchandising division – role and responsibilities of a merchandiser – different types of buyers – communications with the buyers – awareness of current market trends – product development, line planning – line presentation. **Sourcing:** Need for sourcing- sourcing materials- manufacturing resources planning – principles of MRP – Overseas sourcing –sourcing strategies. Supply chain and demand chain analysis – Materials management for quick response – Just In Time technology Overseas sourcing - sourcing strategies. Supply chain and demand chain analysis - Materials management for quick response - JIT technology	7	25
3	**Merchandise mix management and strategies** Life style merchandising, Classification of merchandising, Basic stock list/Model stock list/Never out list, Key role played by merchandiser in a retail, organization **Consumer Behaviour** Types of buyers Retailing and buying seasons and their significance in product planning.	5	15
4	**Merchandising Documentation** Export procedures, Import/Export documentation, FOB, C&F, CIF, Shipping mark, Certificate of origin, Letter of credit, Bill of lading, Export license, Packing list, Commercial invoice, Tech-pack interpretation and updating	5	15

5	**Evolution and movement of fashion** Interpret the process of fashion forecasting, Summarize the movement and acceptance of fashion, Recognize the relationship between historical events and fashion evolution, Identify major fashion centers, types of designers and price market categories, Research influential names in fashion design, Recognize current fashion trends **Introduction to time and action plan** Description of TNA, Advantage, Importance, Preparation of TNA, Exercise on TNA planning	6	20
6	**Export Documentation** Order confirmation, various types of export documents, pre-shipment and post-shipment documentation, terms of sale, payment and shipment. Duty drawback, DEPB, I/E license-exchange control regulation-foreign exchange regulation acts-export management risk-export finance. Functions and objectives of WTO-Concepts of GATT and MFA.	4	15
	Total	30	100

Text and reference books:

1. Sunil Chopra, Peter Meindal, "Supply Chain Management (Strategy, Planning and Operation). Prentice Hall,2001
2. BenjaminS.Blanchard,"LogisticsEngineeringandManagement".IncUppersaddleriver,NewJersey,200
3. Donald J. Bowersox, Davis J. Closs "Logistical Management
4. TheIntegratedSupplyChainProcess",PrenticeHall,2002
5. MartinChristopher,"Chap.7ofLogistics&SupplychainManagement-StrategiesforReducingcost&ImprovingService",2nd Edition,2003.

Course Outcome:

After successful completion of this course, the students should be able to

1. Explain marketing concept in textile industry
2. Define the marketing segmentation
3. Summarize the export documentation for exporting the product
4. Recall the pricing methods and their application
5. Discuss the sourcing strategies in textile marketing
6. List the different activities involved in visual merchandising

Special Remarks (If any): NIL.

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Supply Chain Management (PETT 801B)

Name of the Course:	**Supply Chain Management**
Course Code: PE TT 801B	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 2 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points: 2	

Objective:	
1	To impart knowledge how Logistics, Supply Chain, Operations, Channels of Distribution fit in to various types of business
2	To impart knowledge in designing and Planning of Transportation and logistics Networks.
3	To provide students knowledge how to design supply chain management for a specific product
4.	To facilitate student in using IT for supply chain management
Pre-Requisite:	
1	OE TT 501 A/B
2	
3	

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of questions to be set	**Total marks**	**No. of questions to be set**	**To answer`**	**Marks per question**	**Total marks**
A	**1 to 7**	**10**	**10**				
B	**1 to 7**			**6**	**3**	**5**	**15**
C	**1 to 7**			**6**	**3**	**15**	**45**

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective part.**
- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	**Introduction to Supply Chain Management** Supply chain – objectives – importance – decision phases – process view, competitive and supply chain strategies – achieving strategic fit, supply chain drivers – obstacles – framework – Elements of supply chain.	3	10
2	**Designing the supply chain network.** Designing the supply chain network; Designing the distribution network – role of distribution – factors influencing distribution – design options – e-business and its impact – distribution networks in practice – network design in the supply chain – role of network – factors affecting the network design decisions – modelling for supply chain.	5	18
3	**Designing and Planning of Transportation and logistics Networks.** Role of transportation - modes and their performance – transportation infrastructure and policies - Just-in-time & Quick Response Logistics The Japanese Philosophy- Quick Response Logistics- Vendor Managed inventory- Logistics Information Systems logistics.	5	18
4	**Sourcing and Pricing.** Sourcing – In-house or Outsource – 3rd and 4th PLs – supplier scoring and assessment, selection – design collaboration – procurement	6	20

	process – sourcing planning and analysis. Pricing and revenue management for multiple customers, perishable products, seasonal demand, bulk and spot contracts.		
5	**Information Technology in the supply chain** IT Framework – customer relationship management – internal supply chain management – supplier relationship management–transaction management– future of IT	3	10
6	**Coordination in a Supply Chain** Coordination in a Supply Chain, Lack of supply chain coordination and the Bullwhip effect – obstacle to coordination – managerial levers – building partnerships and trust –continuous replenishment and vendor-managed inventories – collaborative planning, forecasting and replenishment. Measuring effectiveness of supply management, logistics engineering. Operations Research Models for operational and strategic issues in supply chain management.	6	20
7	Application of ERP modules like MRP I & MRP II etc. in SCM	2	4
	Total	30	100

Text and reference books:

1. Ballou Ronald H., Srivastava Samir K. (2014). Business Logistics/Supply Chain Management, 5th Edition. Pearson.
2. Shah Janat. (2009). Supply Chain Management: Text and Cases. Pearson
3. Bowersox Donald D., Closs David J., Cooper Bixby M. (2008). Supply Chain Logistics
4. Management, 2nd Edition. Tata McGraw Hill.
5. Shapiro Jeremy F. (2002). Modeling The Supply Chain, 2nd Edition. Thompson Press.
6. Frazelle Edward H. (2009). Supply Chain Strategy: The Logistics of Supply Chain Management. Tata McGraw Hill.

Course Outcome:

After successful completion of this course, the students should be able to

1. Identify elements of supply chain management
2. Designing the supply chain network and identify its importance
3. Plan warehouse and logistics operations for optimum utilization of resources
4. Collaborate and plan for optimum utilization of resources
5. Forecast the new product by effective operations research models

Special Remarks (If any): NIL.

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Textile Mill Planning & Organization (PE TT 801C)

Name of the Course:	**Textile Mill Planning &Organization**
Course Code: PE TT 801 C	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 2 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points: 2	

Objective:	
1	To impart knowledge of basic theories, techniques of cost ascertainment and their application for planning, performance evaluation and decision making
2	To provide knowledge of scientific way of planning, implementing, monitoring and controlling the various aspects of project such as identification of project, technical and financial appraisal of the textile projects
3	
Pre-Requisite:	
1	PC TT 301, PC TT 302
2	PC TT 401, PC TT 402
3	PC TT 501, PC TT 502, PC TT 503
4	PC TT 601 PC TT 602

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of questions to be set	**Total marks**	**No. of questions to be set**	**To answer`**	**Marks per question**	**Total marks**

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

A	**1 to 5**	**10**	**10**				
B	**1 to 5**			**6**	**3**	**5**	**15**
C	**1 to 5**			**6**	**3**	**15**	**45**

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective part.**
- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	**Introduction** Structure of the textile Industry, sectors of Industry, Product types and organization, Domestic industry, size of the industry, Export industry: Size and nature of the industry.	4	14
2	**Location and Layout Planning** Factors affecting location, Plant layout, Different types of layouts, Plant location and Selection of site for a textile mill, Principles of machinery lay-outs and different flow plans of material for spinning , weaving and process house. Calculation for Balancing of machines for spinning and weaving mills and process house, Construction of building of a textile mill. Types of buildings, single and multistoried buildings. Fire hazards and their control.	12	38
3	**Engineering services** System of Ventilation and lighting used in textile mill, Humidification systems used in Textile Mills, Developments in humidification systems, Humidifiers and dehumidifiers, Utilization of steam and power, Power consumption - Energy consumption in textile machines, Measures to reduce power consumption.	6	20
4	**Material Handling**	3	12

	Importance of material handling, Methods and equipment employed-classification of material handling equipments, control of wastes.		
5	**Costing** Costing, elements of cost, fixed and variable cost, Knowledge of cost calculation for spinning, weaving and processing department. Viability evaluation of a project, Break even analysis.	5	16
	Total	30	100

Text and reference books:

1. Industrial Engineering and Management by O. P.Khanna
2. DudejaVD,"*ManagementofTextileIndustry*",TextileTradePress,Ahmedabad(1981).
3. OrmerodA,"*TextileProjectManagement*",TheTextileInstitute,ManchesterUK(1992).
4. Talukdar M K, Sriramulu P K and Ajgaokar D B, "*Weaving – Machine, Mechanism and Management*", Mahajan Publisher Private Ltd., Ahmedabad, India(1998).
5. GardeARandSubramanianTA,"*ProcessControlinSpinning*",3rd edition
6. GoalDirectedProjectManagementbyE.S.Andersen,K.V.Grude&TorHang,Coopers&CybranlPublication.
7. Management of Textile Production, A. Ormorod. Newnes – Butter WorthsPublication.
8. Plant location, Layout & Maintenance by RuddeleReed.
9. IndustrialOrganisation&Engg.EconomicsT.R.Banga&S.C.Sharma,KhannaPublishers,Delhi.

Course Outcome:

After successful completion of this course, the students should be able to

1. Select site, building, plant machinery
2. Understand the various hazards, and way to ensure safety measures in mill, understand different safety rules & their implementation mechanism
3. Forecast the profitability by effective use of knowledge of machine balancing and optimum utilization of the same
4. Plan effective product costing, selection of product mix for optimum profitability
5. Understand & apply staffing, recruiting,, MIS systems in textile industry

Special Remarks (If any):NIL.

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Costing and Accountancy (OE TT 802A)

Name of the Course:	**Costing and Accountancy**
Course Code: OE TT 802A	**Semester::VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points: 3	

Objective:	
1	To make aware about cost structure and cost elements and to understand various techniques and methods of cost accounting.
2	To understand classification of overheads & methods of absorption.,to understand the features of a cost-sheet .
3	To understand the meaning accounting and accountancy, to know the accounting system for any organization
4	To impart knowledge in the areas of cost estimation, pricing of products, cost control methods and principles of accounting, , financial statements – Balance Sheet , Profit and Loss statement.

Pre-Requisite:	
1	Basic Mathematics of 10 and/or 10+2
2	
3	

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.			
Groups	**Units**	**Objective Questions (MCQ only with one correct**	**Subjective Questions**

		answer)					
		No. of questions to be set	**Total marks**	**No. of questions to be set**	**To answer`**	**Marks per question**	**Total marks**
A	**1 to 5**	**10**	**10**				
B	**1 to 5**			**6**	**3**	**5**	**15**
C	**1 to 5**			**6**	**3**	**15**	**45**

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective part.**
- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	**Introduction** Cost: Meaning, Concept and Classification. Elements of Cost, Nature & importance of costing. Cost accounting Vs Financial Accounting, Preparation of Cost Sheet and Statement of Cost Overhead costing, (Including calculation of machine hour rate.)	12	25
2	**Marginal Costing** Profit – Volume Ratio, Break – Even Point, Margin of Safety, Application of Break-even Analysis. Use of Marginal costing in decision making- pricing decision, make or buy etc. Cost Audit – Meaning, Importance and Techniques of Cost Audit	10	20
3	**Accounting Process** Accounting Concepts & Conventions , Double Entry System, Classification of Accounts Golden Rules, Journal Ledger : Principal Books of Accounts Vouchers-The documents to the transactions Trial Balance,	5	15

4	**Preparation of Final Accounts** Profit & Loss Statement and Balance Sheet , Understanding Financial Statement Ratio Analysis	8	20
5	**Time value of Money** Evaluation of Investment decisions-(Discounting , Non discounting Techniques), Average Rate of Return-, Payback Period-Net Present Value & IRR. .Profitability Index	10	20
	Total	45	100

Text and reference books:

1. "Cost Accounting – Theory & Practice",- S,P Jain, K..L.Narang , New DelhiKalyani Publishers, 2007.
2. Essentials of Financial Accounting(Eastern Economy Edition) –by Ashis Kr Bhattacharya , Prentice Hall. Of India Private Ltd , 2007.
3. James.C.Van Home, "Fundamentals of fincancial Management", PHI, New Delhi, 2004.
4. Financial Management – Theory & Practice – by Prasanna Chandra – Tata McGraw-Hill Education, 2007 -

Course Outcome:

After successful completion of this course, the students should be able to

1. Understand the basic journal entries.
2. Describe the financial statements of a business entity.
3. Define the various components of total cost of a product
4. Understand the features of overhead or indirect cost of production and basis of allocation and apportionment.

Special Remarks (If any):

Evaluation of different investment proposal to select the suitable one (Case study)

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Entrepreneurship Development (OE TT 802 B)

Name of the Course:	**Entrepreneurship Development**
Course Code: OE TT 802 B	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points:3	

Objective:	
1	To impart knowledge in the area of entrepreneurship, and the role and importance of entrepreneurship for economic development.
2	To develop personal creativity and entrepreneurial initiative.
3	To Adopt of the key steps in the elaboration of business idea.
Pre-Requisite:	
1	
2	
3	

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of questions to be set	**Total marks**	**No. of questions to be set**	**To answer`**	**Marks per question**	**Total marks**
A	**1 to 5**	**10**	**10**				
B	**1 to 5**			**6**	**3**	**5**	**15**
C	**1 to 5**			**6**	**3**	**15**	**45**
			Total Marks				**70**

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective**

part.

- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	**Introduction** Entrepreneurship- definition. growth of small scale industries in developing countries and their positions vis-a-vis large industries; role of small scale industries in the national economy; characteristics and types of small scale industries; demand based and resources based ancillaries and sub-control types. 5Government policy for small scale industry; stages in starting a small scale industry.	10	24
2	**Project identification** Assessment of viability, formulation, evaluation, financing, field-study and collection of information, preparation of project report, demand analysis, material balance and output methods, benefit cost analysis, discounted cash flow, internal rate of return and net present value methods.	8	16
3	**Accountancy** Preparation of balance sheets and assessment of economic viability, decision making, expected costs, planning and production control, quality control, marketing, industrial relations, sales and purchases, advertisement, wages and incentive, inventory control, preparation of financial reports, accounts and stores studies.	10	24
4	**Project Planning and control** The financial functions cost of capital approach in project planning and control. Economic evaluation, risk analysis, capital expenditures, policies	9	20

	and practices in public enterprises. profit planning and programming, planning cash flow, capital expenditure and operations. control of financial flows, control and communication		
5	**Laws concerning entrepreneur** Partnership laws, business ownership, sales and income taxes and workman compensation act. Role of various national and state agencies which render assistance to small scale industries.	8	16
	Total	45	100

Text and reference books:

1. Forbat, John, "Entrepreneurship" New Age International. 2
2. . Havinal, Veerbhadrappa, "Management and Entrepreneurship" New Age International
3. Joseph, L. Massod, "Essential of Management", Prentice Hall of India.

Course Outcome:

After successful completion of this course, student should be able to

1. Define basic terms
2. Analyze the business environment in order to identify business opportunities
3. Identify the elements of success of entrepreneurial ventures
4. Consider the legal and financial conditions for starting a business venture
5. Evaluate the effectiveness of different entrepreneurial strategies
6. Specify the basic performance indicators of entrepreneurial activity
7. Explain the importance of marketing and management in small businesses venture
8. Design of model business plan.

Special Remarks (If any): **NIL**

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Indian Constitution (MC 801A)

Name of the Course:	**Indian Constitution**
Course Code: MC 801A	**Semester :VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: 10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points: 0	

Objective:	
1	The purpose of this course is to provide understanding of Indian Constitution, structure and functioning of union, state and local self-government. This course will also provide an understanding of structure, jurisdiction and function of Indian judiciary.
2	
3	
Pre-Requisite:	
1	History and Civics at 10^{th} Standard
2	
3	

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of questions to be set	**Total marks**	**No. of questions to be set**	**To answer`**	**Marks per question**	**Total marks**
A	1 to 4	10	10				
B	1 to 4			6	3	5	15
C	1 to 4			6	3	15	45

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective part.**
- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	**Indian Constitution** Sources and constitutional history, Features: Citizenship, Preamble, Fundamental Rights and Duties, Directive Principles of State Policy.	7	18
2	**Union government and its administration** Structure of the Indian Union: Federalism, Centre- State relationship, President: Role, power and position, PM and Council of ministers, Cabinet and Central Secretariat, Lok Sabha, Rajya Sabha. **State government and its administration** Governor: Role and Position, CM and Council of ministers, State Secretariat: Organisation, Structure and Functions	8	22
3	**Supreme court** Organization of supreme court, procedure of the court, independence of the court, jurisdiction and power of supreme court. **High court** Organization of high court, procedure of the court, independence of the court, jurisdiction and power of supreme court.	15	30

	Subordinate courts Constitutional provision, structure and jurisdiction. National legal services authority, Lok adalats, family courts, gram nyayalays. Public interest litigation (PIL): meaning of PIL, features of PIL, scope of PIL, principle of PIL, guidelines for admitting PIL.		
4	**Local Administration** District's Administration head: Role and Importance, Municipalities: Introduction, Mayor and role of Elected Representative, CEO of Municipal Corporation, Pachayati raj: Introduction, PRI: Zila Pachayat, Elected officials and their roles, CEO Zila Pachayat: Position and role, Block level: Organizational Hierarchy (Different departments), Village level: Role of Elected and Appointed officials, Importance of grass root democracy.	15	30
	Total	45	100

Text and reference books:

1. Indian polity, M, Laxmikanth, MC Graw Hill education, 5th Edition.

Course Outcome

After successful completion of this course, the students should be able to

1. To define, describe and list different articles of Indian constitution.
2. To describe power and functioning of Union, state and local self-government.
3. To describe structure, jurisdiction and function of Indian Judiciary.
4. To determine the steps of legal action and authority to redress a problem in the profession and in the society.

Special Remarks (If any): **NIL**

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Essence of Indian Knowledge and Tradition (MC 801 B)

Name of the Course:	**Essence of Indian Knowledge and Tradition**
Course Code: MC 801 B	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 70**
Teaching Scheme	**Examination Scheme**
Theory: 3 hrs./week	Mid Semester Exam.: 15 Marks
Tutorial: Nil	Assignment & Quiz: =10(=8+2) Marks
	Attendance: 5 Marks
Practical: hr./week	End Semester Exam.: 70 Marks
Credit Points: 0	

Objective:	
1	The course aims at imparting basic principles of thought process, reasoning and inferencing. Sustainability is at the core of Indian Traditional Knowledge Systems connecting society andnature.
2	Holistic life style of Yogic-science and wisdom capsules in Sanskrit literature are also important in modern society with rapid technological advancements and societaldisruptions.
3	The course focuses on introduction to Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system.
Pre-Requisite:	
1	No
2	
3	

End Semester Examinations Scheme. Maximum Marks – 70. Time allotted – 3 hrs.

Groups	**Units**	**Objective Questions (MCQ only with one correct answer)**		**Subjective Questions**			
		No. of questions to	**Total marks**	**No. of questions**	**To answer`**	**Marks per question**	**Total marks**

		be set		**to be set**			
A	**1 to 4**	**10**	**10**				
B	**1 to 4**			**6**	**3**	**5**	**15**
C	**1 to 4**			**6**	**3**	**15**	**45**

- **Only multiple choice type questions (MCQ) with one correct answer are to be set in the objective part.**
- **Specific instruction to the students to maintain the order in answering objective questions should be given on top of the question paper.**

Unit	Content	Hrs/Unit	Marks/Unit
1	Basic Structure of Indian Knowledge System (i) Veda (ii) Upa-Veda (iii) Vedanga (iv) Upanga		
2	Modern Science and Indian Knowledge System		
3	Yoga and Holistic Health care		
4	Case Studies		
	Total		

Text and reference books:

1. Sivaramakrishna V. (Ed.), Cultural Heritage of India- Course Material, 5th Edition, Bharatiya Vidya Bhavan, Mumbai,2014.
2. Jitatmanand S., Modern Physics and Vedant, Bharatiya VidyaBhavan.
3. Capra F., Tao ofPhysics.
4. Capra F., The wave ofLife.
5. Jha V.N., Tarkasangraha of Annam Bhatta (Eng. Trans), International Chinmay Foundation, Velliarnad,Amaku.
6. Yoga Sutra of Patanjali, Ramakrishna Mission,Kolkata.
7. Jha G.N. and Jha R.N. (Ed.), Yoga-Darshanam with Vyasa Bhashya (Eng. Trans.), Vidyanidhi Prakasham, Delhi,2016.

8. Jha R.N., Science of Consciousness Psychotherapy and Yoga Practices, Vidyanidhi Prakasham, Delhi,2016.
9. Sharma P.R., Shodashang Hridayam (Englishtranslation).

Course Outcome:

After successful completion of this course, the students should be able to

1. To understand, connect up and explain basics of Indian Traditional knowledgemodern scientific perspective.

Special Remarks (If any): NIL.

Maulana Abul Kalam Azad University of Technology, West Bengal
(Formerly West Bengal University of Technology)
Syllabus for B. Tech in Textile Technology (TT)
(Applicable from the academic session 2018-2019)

Product Design LAB (PC TT 891)

Name of the Course:	**Product Design Lab**
Course Code: PC TT 891	**Semester: VIII**
Duration: 6 months	**Maximum Marks: 100**
Teaching Scheme	**Examination Scheme**
Theory: hrs./week	**Continuous Internal Assessment: 40**
Tutorial: Nil	**External Assessment: 60**
Practical: 2 hr./week	**Distribution of marks:**
Credit Points: 1	

Course Outcomes: After successful application of the course student should be able to	
1	Apply their knowledge of subjects taught in other previous semesters in conceptualized design of a product
2	Make judgments regarding criteria and standards related an application field of a product
3	Select raw materials for a product or structure
4	Design suitable planning for a product
5	Acquire knowledge about manufacturing and cost of customization of developed product
Pre-Requisite:	
1	All core subjects up to 7th Semester, HM 301
2	
3	

Practical:	
	1) Intellectual skills- Innovativeness, Consumer psychology, Colour psychology, Conceptual, Trendsetter, Forecaster. 70%

	2) Motor skill- Actualisation of Design Concept, Display Skills – 30%.

Laboratory Experiment:	
1	Design of a product with given end use –range of parameter required Selection of fibre , Selection yarn Selection of fabric Selection of wet processing for the fabric (from preparatory to finishing) based on standard techniques with a consideration of product specification and quality. Submission of design process and planning, layout in hard copy to the department
2	Presentation by a seminar and subsequent evaluation.
The above list is not exhaustive. Additional laboratory work or experiments can be planned to consolidate the theoretical work and to emphasise the activities for doing rather than the knowing.	

Project 2 (PW TT 881)

14 hrs/week