

B.Tech (Mechanical Engineering) Syllabus from Admission Batch 2018-19 *3rd Semester*

**BIJU PATNAIK UNIVERSITY OF TECHNOLOGY, ODISHA  
ROURKELA**



**Curriculum and Syllabus**

**of**

**B.Tech (Mechanical Engg.) from the Batch 2018-19**

**Semester (3<sup>rd</sup>)**

  
**Director, Curriculum Development**  
Biju Patnaik University of Technology, Odisha  
Rourkela

  
**Principal**  
Radhakrishna Institute of Technology  
and Engineering, Bhubaneswar

<b>Third Semester</b>							
<b>Theory</b>							
Sl No	Category	Course Code	Course Title	L-T-P	Credit	University Marks	Internal Evaluation
1	BS	RMA3A001	Mathematics - III	3-0-0	3	100	50
2	ES	ROP3B001	Object Oriented Programming Using JAVA	3-0-0	3	100	50
3	HS	REN3E001 / ROB3E002	Engineering Economics / Organisational Behaviour	3-0-0	3	100	50
4	PC	RME3C001	Mechanics of Solid	3-0-0	3	100	50
5	PC	RME3C002	Fluid Mechanics and Hydraulic Machines	3-0-0	3	100	50
6	MC*	RES3F001	Environment Science	3-0-0	0	—	100 (Pass mark is 37)
<b>Total Credit (Theory)</b>					15		
<b>Total Marks</b>						<b>500</b>	<b>250</b>
<b>Practical</b>							
1	PC	RME3C201	Mechanics of Solid Lab.	0-0-3	2		100
2	PC	RME3C202	Fluid Mechanics and Hydraulic Machines Lab.	0-0-3	2		100
3	ES	ROP3B201	OOP Using JAVA Lab.	0-0-3	2		100
4	PSI	RIP3H201	Evaluation of Internship - I	0-0-3	1		100
<b>Total Credit (Practical)</b>					7		
<b>Total Semester Credit</b>					<b>22</b>		
<b>Total Marks</b>							<b>400</b>

**\*Mandatory Non-Credit Courses (MC) result will be reflected with Pass (P) / Fail (F) grade. Thus the grade obtained will not be affecting the grade point average. However it shall appear on the grade sheet as per AICTE rule.**

  
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3 <sup>rd</sup> Semester	ROB3E002	ORGANISATIONAL BEHAVIOUR	L-T-P 3-0-0	3 CREDITS
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**Objectives:**

1. To develop an understanding of the behavior of individuals and groups inside organizations
2. To enhance skills in understanding and appreciating individuals, interpersonal, and group process for increased effectiveness both within and outside of organizations.
3. To develop theoretical and practical insights and problem-solving capabilities for effectively managing the organizational processes.

**Module-I: (06 Hrs.)**

**Fundamentals of OB:** Definition, scope and importance of OB, Relationship between OB and the individual, Evolution of OB, Theoretical framework (cognitive), behavioristic and social cognitive), Limitations of OB.

**Module-II: (12 Hrs.)**

**Attitude:** Importance of attitude in an organization, Right Attitude, Components of attitude, Relationship between behavior and attitude, Developing Emotional intelligence at the workplace, Job attitude, Barriers to changing attitudes.

**Personality and values:** Definition and importance of Personality for performance, The Myers-Briggs Type Indicator and The Big Five personality model, Significant personality traits suitable to the workplace (personality and job – fit theory), Personality Tests and their practical applications.

**Perception:** Meaning and concept of perception, Factors influencing perception, Selective perception, Attribution theory, Perceptual process, Social perception (stereotyping and halo effect).

**Motivation:** Definition & Concept of Motive & Motivation, The Content Theories of Motivation (Maslow's Need Hierarchy & Herzberg's Two Factor model Theory), The Process Theories (Vroom's expectancy Theory & Porter Lawler model), Contemporary Theories – Equity Theory of Work Motivation.

**Module-III: (10 Hrs.)**

**Foundations of Group Behavior:** The Meaning of Group & Group behavior & Group Dynamics, Types of Groups, The Five – Stage Model of Group Development.

**Managing Teams:** Why Work Teams, Work Teams in Organization, Developing Work Teams, Team Effectiveness & Team Building.

**Leadership:** Concept of Leadership, Styles of Leadership, Trait Approach Contingency Leadership Approach, Contemporary leadership, Meaning and significance of contemporary leadership, Concept of transformations leadership, Contemporary theories of leadership, Success stories of today's Global and Indian leaders.

**Module-IV: (08 Hrs.)**

**Organizational Culture :** Meaning & Definition of Organizational Culture, creating & Sustaining Organizational Culture, Types of Culture (Strong vs. Weak Culture, Soft Vs. Hard Culture & Formal vs. Informal Culture), Creating Positive Organizational Culture, Concept of Workplace Spirituality.

  
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**Module-V: (09 Hrs.)**

**Organizational Change:** Meaning, Definition & Nature of Organizational Change, Types of Organizational Change, Forces that acts as stimulants to change.

Implementing Organizational Change : How to overcome the Resistance to Change, Approaches to managing Organizational Change, Kurt Lewin's-Three step model, Seven Stage model of Change & Kotter's Eight-Step plan for Implementing Change, Leading the Change Process, Facilitating Change, Dealing with Individual & Group Resistance, Intervention Strategies for Facilitating Organizational Change, Methods of Implementing Organizational Change, Developing a Learning Organization.

**Books:**

1. Understanding Organizational Behaviour, Parek, Oxford
2. Organizational Behaviour, Robbins, Judge, Sanghi, Pearson.
3. Organizational Behaviour, K. Awathappa, HPH.
4. Organizational Behaviour, VSP Rao, Excel
5. Introduction to Organizational Behaviour, Moorhead, Griffin, Cengage.
6. Organizational Behaviour, Hitt, Miller, Colella, Wiley



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3 <sup>rd</sup> Semester	RES3F001	ENVIRONMENT SCIENCE	L-T-P 3-0-0	0 CREDIT
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We as human being are not an entity separate from the environment around us rather we are a constituent seamlessly integrated and co-exist with the environment around us. We are not an entity so separate from the environment that we can think of mastering and controlling it rather we must understand that each and every action of ours reflects on the environment and vice versa. Ancient wisdom drawn from Vedas about environment and its sustenance reflects these ethos. There is a direct application of this wisdom even in modern times. Idea of an activity based course on environment protection is to sensitize the students on the above issues through following two type of activities.

**(a) Awareness Activities:**

- i) Small group meetings about water management, promotion of recycle use, generation of less waste, avoiding electricity waste
- ii) Slogan making event
- iii) Poster making event
- iv) Cycle rally
- v) Lectures from experts

**(b) Actual Activities:**

- i) Plantation
- ii) Gifting a tree to see its full growth
- iii) Cleanliness drive
- iv) Drive for segregation of waste
- v) To live some big environmentalist for a week or so to understand his work
- vi) To work in kitchen garden for mess
- vii) To know about the different varieties of plants
- viii) Shutting down the fans and ACs of the campus for an hour or so



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