

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



Curriculum and Syllabus

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

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

Semester (6th)

Sixth Semester							
Theory							
Sl. No.	Category	Course Code	Course Title	L-T-P	Credit	University Mark	Institution Evaluation
1	PC	RMESC201	Design of Machine Elements	(2-2-2)	11	100	100
2	PC	RMESC202	Machining Science and Technology	(2-2-2)	11	100	100
3	PE		Optimization in Engineering	(2-2-2)	11	100	100
4	PE	RMESC201	Smart and Composite Materials	(2-2-2)	11	100	100
		RMESC202	Compressible Flow and Gas Dynamics	(2-2-2)			
		RMESC203	Computer Integrated Manufacturing and CIMS	(2-2-2)			
5	OE		Artificial Intelligence and Machine Learning	(2-2-2)	11	100	100
			FUNCTIONS OF THE VARIOUS PARTS OF THE MACHINERY	(2-2-2)			
			Control System	(2-2-2)			
6	MC*	RUKRFD01	Essence of Indian Knowledge Tradition - I	(2-2-2)	0		100 (Pass mark is 0%)
Total Credit (Theory)					78		
Total Marks						780	780
Practical							
1	PC	RMESC201	Design of Machine Elements Lab	(0-0-3)	3		100
2	PC	RMESC202	Machining Science and Technology Lab	(0-0-3)	3		100
3	ZI		Future Ready Contributor Program	(0-0-3)	3		100
4	ZI		Seminar - I	(0-0-3)	3		100
Total Credit (Practical)					9		
Total Semester Credit					87		
Total Marks						870	870

SUMMER INTERNSHIP TRAINING FOR 40 DAYS

*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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6 th Semester	RIK6F001	Essence of Indian Knowledge Tradition - I	L-T-P 3-0-0	0 Credits
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Course Objective:

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 and nature. Holistic life style of Yogic-science and wisdom capsules in Sanskrit literature are also important in modern society with rapid technological advancements and societal disruptions. 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.

Course Outcomes:

- Ability to understand, connect up and explain basics of Indian Traditional knowledge modern scientific perspective.

Course Content:

- **Basic Structure of Indian Knowledge System** (i) वेद, (ii) उपवेद (आयुर्वेद, धनुर्वेद, गन्धर्ववेद, ऋष्यपत्य आदि) (iii) वेदांग (शिक्षा, कल्प, निरुत, व्याकरण, ज्योतिष छंद), (iv) उपाङ्ग (धर्म शास्त्र, मीमांसा, पुराण, तर्कशास्त्र)
- Modern Science and Indian Knowledge System
- Yoga and Holistic Health care
- Case Studies.

Books:

1. V. Sivaramakrishna (Ed.), Cultural Heritage of India-Course Material, Bharatiya Vidya Bhavan, Mumbai, 5th Edition, 2014
2. Swami Jitatmanand, Modern Physics and Vedant, Bharatiya Vidya Bhavan
3. FritzoF Capra, Tao of Physics
4. FritzoF Capra, The wave of Life
5. V N Jha (Eng. Trans.), Tarkasangraha of Annam Bhatta, International Chinmay Foundation, Velliarnad, Amaku,am
6. Yoga Sutra of Patanjali, Ramakrishna Mission, Kolkatta
7. GN Jha (Eng. Trans.) Ed. R N Jha, Yoga-darshanam with Vyasa Bhashya, VidyanidhiPrakasham, Delhi, 2016

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8. RN Jha, Science of Consciousness Psychotherapy and Yoga Practices, VidyanidhiPrakasham, Delhi, 2016 9. P R Sharma (English translation), ShodashangHridayam

5 th Semester	RME5C201	Design of Machine Elements Lab	L-T-P 0-0-3	2 Credits
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LIST OF EXPERIMENTS:

1. Design of any one working model related to Design of machine elements i.e., Module I and II.
 2. Design of any one working model related to Design of machine elements i.e., Module III and IV.
 3. Design & drawing of Riveted joint
 4. Design and drawing of Cotter joint
 5. Design and drawing of Knuckle joint
 6. Design of shafts subjected to combined loading
 7. Design and drawing of Flange coupling
 8. Design of spring
 9. Design of bearing
- Total no. of Drawing: 6
3 in drawing sheets
3 in AutoCad/Pro-E/CATIA/ANSYS


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