

Physics Group

B. Tech. First Semester

Contact Hours: 32 Hrs.

Course Code	Course Name	Load Allocation			Marks Distribution			Credits
		L	T	P	Internal	External	Total	
BTPH101	Engineering Physics	3	1	-	40	60	100	4
BTAM101	Engineering Mathematics-I	4	1	-	40	60	100	5
BTHU101	Communicative English	3	0	-	40	60	100	3
BTEE 101	Basic Electrical and Electronics Engineering	4	1	-	40	60	100	5
HVPE101	Human Values and Professional Ethics	3	-	-	40	60	100	3
BTPH102	Engineering Physics Laboratory	-	-	2	30	20	50	1
BTHU102	Communicative English Laboratory	-	-	2	30	20	50	1
BTEE102	Basic Electrical and Electronics Engineering Laboratory	-	-	2	30	20	50	1
BTMP101	Manufacturing Practice	-	-	6	60	40	100	3
Total	5 Theory Courses + 4 Laboratory Courses	17	3	12	350	400	750	26

Chemistry Group

B. Tech. First Semester

Contact Hours: 34 Hrs

Course Code	Course Name	Load Allocation			Marks Distribution			Credits
		L	T	P	Internal	External	Total	
BTCH 101	Engineering Chemistry	3	1	-	40	60	100	4
BTAM101	Engineering Mathematics-I	4	1	-	40	60	100	5
BTME101	Elements of Mechanical Engineering	4	1	-	40	60	100	5
BTCS 101	Fundamentals of Computer Programming and IT	3	-	-	40	60	100	3
EVSC 101	Environmental Science	2	0	-	40	60	100	2
BTCH102	Engineering Chemistry Laboratory	-	-	2	30	20	50	1
BTME102	Engineering Drawing	1	-	6	40	60	100	4
BTCS 102	Fundamentals of Computer Programming and IT Laboratory	-	-	4	30	20	50	2
BTME103	Engineering Computer Graphics Laboratory	-	-	2	30	20	50	1
Total	6 Theory Courses + 3 Laboratory Courses	17	3	14	330	420	750	27

ARM

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B.B.S.T. Engg. College
Fatehgarh Sahib (Pb.)



IKAPTU Syllabus Scheme

Third Semester

CIVIL ENGG

Contact Hours: 33 Hrs.

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTAM-301	Engineering Mathematics-III*	4	1	-	40	60	100	5
BTCE-301	Fluid Mechanics-I	3	1	-	40	60	100	4
BTCE-302	Rock Mechanics & Engg. Geology	3	1	-	40	60	100	4
BTCE-303	Strength of Materials	3	2	-	40	60	100	5
BTCE-304	Surveying	3	1	-	40	60	100	4
BTCE-305	Building Materials & Construction	4	0	-	40	60	100	4
BTCE-306	Fluid Mechanics-I Lab	-	-	2	30	20	50	1
BTCE-307	Strength of Materials Lab	-	-	2	30	20	50	1
BTCE-308	Surveying Lab	-	-	3	30	20	50	2
BTCE-309	Workshop Training of 4 weeks duration after 2 nd semester Carpentry, Electrical, Plumbing, Masonry, CAD	-	-	-	30	20	50	1
Total		20	06	07	360	440	800	31

* This subject shall be taught by the faculty of Applied Science Department

Fourth Semester

Contact Hours: 30 Hrs.

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-401	Geomatics Engineering	3	1	-	40	60	100	4
BTCE-402	Construction Machinery & Works Management	3	1	-	40	60	100	4
BTCE-403	Design of Concrete Structures-I	4	1	-	40	60	100	5
BTCE-404	Fluid Mechanics-II	3	1	-	40	60	100	4
BTCE-405	Irrigation Engineering-I	3	1	-	40	60	100	4
BTCE-406	Structural Analysis-I	3	2	-	40	60	100	5
BTCE-407	Concrete Technology Lab	-	-	2	30	20	50	1
BTCE-408	Structural Analysis Lab	-	-	2	30	20	50	1
BTCE-409	General Fitness	-	-	-	100	-	100	-
Total		19	07	04	400	400	800	28

Fifth Semester

Contact Hours: 30 Hrs.

Course Code	Course Name	Load Allocation			Marks Distribution		Total Marks	Credits
		L	T	P	Internal	External		
BTCE-501	Design of Steel Structures-I	4	1	-	40	60	100	5
BTCE-502	Geotechnical Engineering	4	1	-	40	60	100	5
BTCE-503	Structural Analysis-II	3	2	-	40	60	100	5
BTCE-504	Transportation Engineering-I	3	1	-	40	60	100	4
BTCE-505	Environmental Engineering -I	3	1	-	40	60	100	4
BTCE-506	Transportation Engineering Lab	-	-	2	30	20	50	1
BTCE-507	Geotechnical Engineering Lab	-	-	2	30	20	50	1
BTCE-508	Computer Aided Structural Drawing I	-	-	3	30	20	50	2
BTCE-509	Survey Camp of 04 weeks duration after 4 th Semester	-	-	-	100	50	150	2
Total		17	06	07	390	410	800	29


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**MRSPTU B.TECH. (CIVIL ENGG.) SYLLABUS 2016 BATCH ONWARDS UPDATED
ON 18.06.2018**

SEMESTER 3 rd		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BCIE1-301	Strength of Materials	3	1	0	40	60	100	4
BCIE1-302	Fluid Mechanics	3	1	0	40	60	100	4
BCIE1-303	Irrigation Engineering-I	3	1	0	40	60	100	4
BCIE1-304	Building Materials	3	1	0	40	60	100	4
BCIE1-305	Rock Mechanics & Engineering Geology	2	0	0	40	60	100	2
BHUM0-F91	Soft Skills-I	0	0	2	60	40	100	1
BCIE1-306	Fluid Mechanics Lab.	0	0	2	60	40	100	1
BCIE1-307	Strength of Materials Lab.	0	0	2	60	40	100	1
BCIE1-308	Training-I (Workshop)#	0	0	4	60	40	100	2
Total		14	4	10	440	460	900	23

4-Week Training during summer vacations after 2nd semester

SEMESTER 4 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BCIE1-409	Design of Concrete Structures-I	3	1	0	40	60	100	4
BCIE1-410	Structural Analysis-I	3	1	0	40	60	100	4
BCIE1-411	Surveying	3	1	0	40	60	100	4
BCIE1-412	Environmental Engineering-I	3	1	0	40	60	100	4
BCIE1-413	Construction Project Management	3	0	0	40	60	100	3
BHUM0-F92	Soft Skills-II	0	0	2	60	40	100	1
BCIE1-414	Structural Analysis Lab.	0	0	2	60	40	100	1
BCIE1-415	Surveying Lab.	0	0	2	60	40	100	1
BCIE1-416	Concrete Technology Lab.	0	0	2	60	40	100	1
Total		15	4	8	440	460	900	23

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SEMESTER 5 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BCIE1-517	Design of Steel Structures-I	3	1	0	40	60	100	4
BCIE1-518	Transportation Engineering-I	3	1	0	40	60	100	4
BCIE1-519	Environmental Engineering-II	3	1	0	40	60	100	4
BCIE1-520	Geomatics Engineering	3	1	0	40	60	100	4
BCIE1-521	Disaster Management	2	0	0	40	60	100	2
BHUM0-F93	Soft Skills-III	0	0	2	60	40	100	1
BCIE1-522	Environmental Engineering Lab.	0	0	2	60	40	100	1
BCIE1-523	Transportation Engineering Lab.	0	0	2	60	40	100	1
BCIE1-524	Training-II (Survey Camp)#	0	0	4	60	40	100	2
Total		14	4	10	440	460	900	23

6-Week Training during summer vacations after 4th semester

SEMESTER 6 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BCIE1-625	Design of Concrete Structures-II	3	1	0	40	60	100	4
BCIE1-626	Geotechnical Engineering	3	1	0	40	60	100	4
BCIE1-627	Numerical Methods in Civil Engineering	3	1	0	40	60	100	4
BCIE1-628	Structural Analysis-II	3	1	0	40	60	100	4
BCIE1-629	Estimating and Costing	3	0	0	40	60	100	3
BHUM0-F94	Soft Skills-IV	0	0	2	60	40	100	1
BCIE1-630	Geotechnical Engineering Lab.	0	0	2	60	40	100	1
BCIE1-631	Concrete Structures Drawing	0	0	2	60	40	100	1
Total		15	4	6	380	420	800	22


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SEMESTER 7 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BCIE1-732	Design of Steel Structures-II	3	1	0	40	60	100	4
BCIE1-733	Foundation Engineering	3	1	0	40	60	100	4
BCIE1-734	Irrigation Engineering-II	3	1	0	40	60	100	4
Departmental Elective-I (select any one)		3	1	0	40	60	100	4
BCIE1-756	Pre-Stressed Concrete							
BCIE1-757	Bridge Engineering							
BCIE1-758	Solid Waste Management							
BCIE1-759	Ground Improvement Techniques							
BCIE1-735	Steel Structures Drawing	0	0	2	60	40	100	1
BCIE1-736	Hydraulic Structures Drawing	0	0	2	60	40	100	1
BCIE1-737	Training-III (Practical)#	0	0	4	60	40	100	2
Total		12	4	8	340	360	700	20

8-Week In-House / Industrial Training during summer vacations after 6th semester

SEMESTER 8 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BCIE1-838	Transportation Engineering-II	3	1	0	40	60	100	4
BCIE1-839	Earthquake Resistant Design of Structures	3	1	0	40	60	100	4
Departmental Elective-II (select any one)		3	1	0	40	60	100	4
BCIE1-860	Hydrology & Dams							
BCIE1-861	Pavement Engineering							
BCIE1-862	Advanced Structural Analysis							
BCIE1-863	Advanced Reinforcing Techniques in Soils							
Open Elective-I (select any one)		3	0	0	40	60	100	3
BCIE1-840	Software Lab.	0	0	2	60	40	100	1
BCIE1-841	Advanced Testing Lab.	0	0	2	60	40	100	1
BCIE1-842	Major Project	0	0	6	60	40	100	2
Total		12	3	10	340	360	700	19

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Seventh / Eighth Semester

ECE

Contact Hours: 30 Hrs.

Course Code	Course Title	Load Allocation			Marks Distribution		Total	Credits
		L	T	P	Internal	External		
BTCS-403	Computer Networks	3	1	-	40	60	100	4
BTEC-701	Embedded Systems	3	1	-	40	60	100	4
BTEC-702	Optical Communication	3	1	-	40	60	100	4
BTEC-YYY	Elective-II	3	1	-	40	60	100	4
BTEC-ZZZ	Elective-III	3	1	-	40	60	100	4
BTEC-703	Lab Wireless and Optical Systems & Networks	-	-	2	30	20	50	1
BTEC-704	Lab Embedded Systems	-	-	2	30	20	50	1
BTEC-705	Major Project	-	-	6	100	50	150	3
General Fitness					100	NA	100	
TOTAL		15	5	10	460	390	850	25

Seventh / Eighth Semester

Course Component	Internal Marks	External Marks	Total Marks
For Software Training *	150 Marks	100 Marks	250 Marks
For Industry Oriented Project Training	300 Marks	200 Marks	500 Marks

Note:

*The institution may provide training on any of the softwares from amongst

- ORCAD,
- MATLAB,
- Mentor DSP,
- MULTISIM,
- OPTSIM,
- OPTISYSTEM
- NS2
- OPNET etc.
- QUALNET
- ULTIBOARD
- XILINX
- MODELSIM/ QUESTA SIM
- KIEL etc.


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Departmental Elective – I (Common Code XXX)

- BTEC 901 Relational Data Base Management System
- BTEC 902 Micro Electronics
- BTEC 903 Industrial Electronics
- BTEC 904 Digital System Design
- BTEC 905 Intellectual property rights & patent systems
- BTEC 906 Intelligent Instrumentation
- BTEC 907 Information Theory & Coding
- BTIT 702 Software Project Management

Departmental Elective –II (Common Code YYY)

- BTEC 908 CMOS based design
- BTEC 909 Biomedical signal processing
- BTEC 910 Satellite Communication
- BTEC 911 Artificial Intelligence Techniques & Applications
- BTEC 912 Speech & image Processing
- BTEC 913 Human Resource Management
- BTEC 914 Computer organization and Architecture
- BTIT 501 Cyber Law & IPR

Departmental Elective – III (Common Code ZZZ)

- BTEC 915 Electromagnetic interference & compatibility
- BTEC 916 Neural Networks & Fuzzy logic
- BTEC 917 Robotics
- BTEC 918 Operation Research
- BTEC 919 Mobile Computing
- BTEC 920 Wireless Sensor network
- BTEC 921 Numerical Methods



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MRSPTU B.TECH. MECHANICAL ENGG. SYLLABUS 2016 BATCH ONWARDS

B. TECH. MECHANICAL ENGINEERING (2nd YEAR)

Total Contact Hours = 34

Total Marks = 1100

Total Credits = 26

SEMESTER 3 rd		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BMEE1-301	Strength of Material-I	3	1	0	40	60	100	4
BMEE1-302	Theory of Machines-I	3	1	0	40	60	100	4
BMEE1-303	Machine Drawing using CAD	1	0	4	40	60	100	3
BMEE1-304	Applied Thermodynamics-I	3	1	0	40	60	100	4
BMEE1-305	Manufacturing Processes	2	0	0	40	60	100	2
BHUM0-F91	Soft Skill - I	0	0	2	60	40	100	1
BMEE1-306	*Workshop Training	0	0	4	60	40	100	2
BMEE1-307	Strength of Material Lab.-I	0	0	2	60	40	100	1
BMEE1-308	Applied Thermodynamics Lab.-I	0	0	2	60	40	100	1
BMEE1-309	Manufacturing Processes Lab	0	0	2	60	40	100	1
Department Elective - I		3	0	0	40	60	100	3
BMEE1-356	Non - Conventional Energy Recourses							
BMEE1-357	Industrial Engineering							
BMEE1-358	Product Design and Development							
Total	Theory = 6 Labs = 4	15	3	16	540	560	1100	26

*Workshop training will be imparted in the institution at the end of 2nd semester for four-week duration

(Minimum 36 hrs. per week) industrial tour will also form the part of this training.

Total Contact Hours = 32

Total Marks = 1100

Total Credits = 27

SEMESTER 4 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BMEE1-410	Strength of Material-II	3	1	0	40	60	100	4
BMEE1-411	Theory of Machines-II	3	1	0	40	60	100	4
BMEE1-412	Fluid Mechanics	3	1	0	40	60	100	4
BMEE1-413	Applied Thermodynamics-II	3	1	0	40	60	100	4
BMEE1-414	Material Science & Metallurgy	3	0	0	40	60	100	3
BHUM0-F92	Soft Skill - II	0	0	2	60	40	100	1
BMEE1-415	Theory of Machines-II Lab.	0	0	2	60	40	100	1
BMEE1-416	Fluid Mechanics Lab	0	0	2	60	40	100	1
BMEE1-417	Applied Thermodynamics-II Lab	0	0	2	60	40	100	1
BMEE1-418	Material Science & Metallurgy Lab.	0	0	2	60	40	100	1
Department Elective - II		3	0	0	40	60	100	3
BMEE1-459	Composite Material							
BMEE1-460	Welding Technology							
BMEE1-461	Materials Management							
Total	Theory = 6 Labs = 5	18	4	10	540	560	1100	27

MRSPTU B.TECH. MECHANICAL ENGG. SYLLABUS 2016 BATCH ONWARDS

Total Contact Hours = 27 Total Marks = 1200 Total Credits = 24

SEMESTER 5 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BMEE1- 519	Design of Machine Element-I	2	0	0	40	60	100	2
BMEE1- 520	Mechanical Measurement and Metrology	3	0	0	40	60	100	3
BMEE1- 521	Automobile Engineering	3	0	0	40	60	100	3
BMEE1- 522	Industrial Automation & Robotics	3	0	0	40	60	100	3
BHUM0 -F93	Soft Skill – III	0	0	2	60	40	100	1
BMEE1- 523	Design of Machine Element-I Lab	0	0	2	60	40	100	1
BMEE1- 524	Mechanical Measurement and Metrology Lab.	0	0	2	60	40	100	1
BMEE1- 525	Automobile Engineering Lab	0	0	2	60	40	100	1
BMEE1- 526	Industrial Automation & Robotics Lab.	0	0	2	60	40	100	1
BMEE1-527	*Industrial Training	0	0	0	60	40	100	2
Department Elective – III		3	0	0	40	60	100	3
BMEE1-562	Fluid Mechanics-II							
BMEE1-563	Tool Design							
BMEE1-564	Finite Element Method							
Open Elective – I		3	0	0	40	60	100	3
Total	Theory = 6 Labs = 5	17	0	10	600	600	1200	24

*Industrial training to be imparted at the end of 4th semester for six weeks

Total Contact Hours = 27 Total Marks = 1000 Total Credits = 23

SEMESTER 6 th		Contact Hrs			Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
BMEE1- 628	Design of Machine Element-II	2	0	0	40	60	100	2
BMEE1- 629	Heat Transfer	3	1	0	40	60	100	4
BMEE1- 630	Fluid Machinery	3	1	0	40	60	100	4
BHUM0 – F94	Soft Skill - IV	0	0	2	60	40	100	1
BMEE1- 631	Design of Machine Element-II Lab	0	0	2	60	40	100	1
BMEE1- 632	Heat Transfer Lab	0	0	2	60	40	100	1
BMEE1- 633	Fluid Machinery Lab	0	0	2	60	40	100	1
Department Elective – IV (Select any one)		3	0	0	40	60	100	3
BMEE1-665	Operation Management							
BMEE1-666	Industrial Tribology							
BMEE1-667	Modelling & Simulation							
BMEE1-668	Mechatronics							
Department Elective – V (Select any one)		3	0	0	40	60	100	3
BMEE1-669	Management Information System							
BMEE1-670	Solar Energy							
BMEE1-671	Energy Conservation & Management							
BMEE1-672	Industrial Automation and Robotics							
Open Elective – II (Select any one)		3	0	0	40	60	100	3
Total	Theory = 6 Labs = 4	17	2	8	480	520	1000	23

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B.Tech. (Mechanical)

7th /8th Semester B.Tech (Mechanical) *

Industrial Training (One Semester)

Code	Title of the course	Maximum Marks		Total Marks	Credits
		Internal	External		
BTME-IT	Software Training	150	100	250	8
	Industrial oriented Project	300	200	500	10
	Training	450	300	750	18

Total Contact Hours per Week = 36 (minimum)

*** Industrial Training in reputed industries will be arranged for complete one semester.**

7th /8th Semester B.Tech (Mechanical)

Code	Title of the course	L	T	P	Maximum Marks		Total Marks	Credits
					Internal	External		
BTME-801	Industrial Engineering and Management	4	-	-	40	60	100	4
BTME-802	Refrigeration & Air Conditioning	4	1	-	40	60	100	5
BTME-803	Mechanical Vibrations	4	1	-	40	60	100	5
BTME-DE/	Department Elective-II	4	-	-	40	60	100	4
	Open Elective	4	-	-	40	60	100	4
BTME-804	Refrigeration & Air Conditioning Lab	-	-	2	30	20	50	1
BTME-805	Mechanical Vibration lab	-	-	2	30	20	50	1
BTME-806	Major Project*	-	-	6	100	50	150	3
	Advisory meeting	-	-	1	-	-	-	-
GF 800	General Fitness	-	-	-	100	-	100	-
	Total	20	2	11	460	390	850	27

Total Contact Hours = 33

* The problem of the minor project "formulated" during 6th Semester is to extended and executed in major project by the same group of students. The design/construction/fabrication/computer modeling/experimentation etc. is to be carried out. The results and analysis followed by discussion regarding suitability /non suitability of the project or any positive gain in the project made with conclusions and recommendations for future extension of the project must be covered.

Sd/-
12/7/13


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Department Electives

Group-1

- DE/ME-1.1 I.C Engines
- DE/ME-1.2 Cryogenic Technology
- DE/ME-1.3 Non Conventional Energy resources
- DE/ME-1.4 Energy Conservation and Management
- DE/ME-1.5 Fluid Mechanics-II
- DE/ME-1.6 Solar Energy
- DE/ME-1.7 Heat Exchanger Design
- DE/ME-1.8 Power Plant Engg.
- DE/ME-1.9 Gas Dynamics

Group-2

- DE/PE-2.0 Non-Traditional Machining
- DE/PE-2.1 Industrial Engg
- DE/ME-2.2 Modeling and Simulation
- ~~DE/ME-2.3 Operations Management~~
- DE/ME-2.4 Non -Destructive Testing
- DE/ME-2.5 Total Quality Management
- DE/ME-2.6 Maintenance and Reliability Engg
- DE/ME-2.7 Material Management
- DE/ME-2.8 Management Information System
- DE/ME-2.9 Entrepreneurship

Group-3

- DE/PE-3.0 Product Design and Development
- DE/PE-3.1 Machine Tool Design
- DE/PE-3.2 Optimization Techniques
- DE/ME-3.3 Tool Design
- DE/ME-3.4 Finite Element Method
- DE/ME-3.5 Experimental Stress Analysis
- DE/ME-3.6 Industrial Tribology
- DE/ME-3.7 Theory of plasticity
- DE/ME-3.8 Mechatronics

Note:

1. A Department Elective subject may normally be offered only if at least 10 students of the class have opted for it
2. The student shall select both the electives courses from the same group out of three groups (Group-1, Group-2, and Group -3)

SA 12/7/13


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