

Intimation of Department of Mechanical Engineering Board of Studies Meeting on 25.06.2022 at 2 PM-Online Mode @ S.R.K.R. Engineering College (A)-Reg.

Mechanical Department <hodmechsrkr@gmail.com>
To: plvrksateesh@gmail.com

Wed, Jun 22, 2022 at 11:22 AM

Dear Sateesh,

Sub: Intimation of Department of Mechanical Engineering-Board of Studies Meeting on 25-06-2022 at 2 PM through Online Mode @ S.R.K.R. Engineering College (A)-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of the Department of Mechanical Engineering, S.R.K.R. Engineering College (A) as a Subject Expert from Alumni.

You are requested to attend the online meeting scheduled on 25.06.2022 at 2.00 PM. The online meeting link will be provided to you shortly.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Syllabus for 4/4 B.Tech. under R19 regulations and Syllabus for 3/4 B.Tech. under R20 regulations are enclosed for your kind reference.

Thanking you,

 Professor & Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
CHINA AMIRAM (P.O.)
CHINA AMIRAM-534 204.

Yours Sincerely,
Dr. K. BRAHMA RAJU

Professor & Head,
Department of Mechanical Engineering
S.R.K.R. Engineering College (A)
China Amiram, Bhimavaram,
West Godavari District
Andhra Pradesh-534204
Mobile No. : 9849503522


PRINCIPAL
S.R.K.R. Engineering College(A)
China Amiram, Bhimavaram - 534 204,
W G Dist. Andhra Pradesh

2 attachments

 **Proposed-ME-R19-IV-Syllabus.pdf**
691K

 **Proposed-Mech-R20-3rd-YEAR-Syllabus.pdf**
1059K

Principal
S.R.K.R. Engineering College (A)
China Amiram, Bhimavaram - 534 204
W.G. Dist. Andhra Pradesh

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1 message

Mechanical Department <hodmechsrkr@gmail.com>
To: bhanuprasadgali@gmail.com

Wed, Jun 22, 2022 at 11:17 AM

Dear Sir,

Sub: Intimation of Department of Mechanical Engineering-Board of Studies Meeting on 25-06-2022 at 2 PM through Online Mode @ S.R.K.R. Engineering College (A)-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of the Department of Mechanical Engineering, S.R.K.R. Engineering College (A) as a Subject Expert from Industry.

You are requested to attend the online meeting scheduled on 25.06.2022 at 2.00 PM. The online meeting link will be provided to you shortly.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Syllabus for 4/4 B.Tech. under R19 regulations and Syllabus for 3/4 B.Tech. under R20 regulations are enclosed for your kind reference.

Thanking you,


Professor & Head
Dept. of Mechanical Engg.
Dr. K. BRAHMA RAJU Engineering College
Professor & Head, CHINA AMIRAM (P.O.)
Department of Mechanical Engineering
S.R.K.R. Engineering College (A)
China Amiram, Bhimavaram,
West Godavari District
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1 message

Wed, Jun 22, 2022 at 11:14 AM

Mechanical Department <hodmechsrkr@gmail.com>
To: "Prof. GRIK" <grksastry@nitandhra.ac.in>

Dear Sir,

Sub: Intimation of Department of Mechanical Engineering-Board of Studies Meeting on 25-06-2022 at 2 PM through Online Mode @ S.R.K.R. Engineering College (A)-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of the Department of Mechanical Engineering, S.R.K.R. Engineering College (A) as a Subject Expert other than Parent University..

You are requested to attend the online meeting scheduled on 25.06.2022 at 2.00 PM. The online meeting link will be provided to you shortly.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Syllabus for 4/4 B.Tech. under R19 regulations and Syllabus for 3/4 B.Tech. under R20 regulations are enclosed for your kind reference.

Thanking you,


Yours Sincerely,
Dr. K. BRAHMA RAJU
Professor & Head, CHINA AMIRAM (P.O.)
Department of Mechanical Engineering
S.R.K.R. Engineering College (A)
China Amiram, Bhimavaram,
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1 message

Mechanical Department <hodmechsrkr@gmail.com>
To: "Prof.K.Venkatasubbaiah" <drkvsau@yahoo.co.in>

Wed, Jun 22, 2022 at 11:10 AM

Dear Sir,

Sub: Intimation of Department of Mechanical Engineering-Board of Studies Meeting on 25-06-2022 at 2 PM through Online Mode @ S.R.K.R. Engineering College (A)-Reg.

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Thanking you,


Yours Sincerely, **Dr. K. BRAHMAMURTHY**,
Professor & Head, CHINA AMIRAM (P.O.)
Department of Mechanical Engineering
S.R.K.R. Engineering College (A)
China Amiram, Bhimavaram,
West Godavari District
Andhra Pradesh-534204
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1 message

Mechanical Department <hodmechsrkr@gmail.com>

Wed, Jun 22, 2022 at 11:00 AM

To: "ganeshkumar.pvs ganeshkumar.pvs" <ganeshkumar.pvs@nsll.drdo.in>

Dear Sir,

Sub: Intimation of Department of Mechanical Engineering-Board of Studies Meeting on 25-06-2022 at 2 PM through Online Mode @ S.R.K.R. Engineering College (A)-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of the Department of Mechanical Engineering, S.R.K.R. Engineering College (A) as a Subject Expert from Research Organization.

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Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

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Dr. K. BRAHMA RAJU
Professor & Head, Department of Mechanical Engineering
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1 message

Mechanical Department <hodmechsrkr@gmail.com>
To: kmpalli12@gmail.com

Wed, Jun 22, 2022 at 10:56 AM

Dear Sir,

Sub: Intimation of Department of Mechanical Engineering-Board of Studies Meeting on 25-06-2022 at 2 PM through Online Mode @ S.R.K.R. Engineering College (A)-Reg.

We take the privilege in inviting you for the Board of Studies Meeting of the Department of Mechanical Engineering, S.R.K.R. Engineering College (A) as a University Nominee.

You are requested to attend the online meeting scheduled on 25.06.2022 at 2.00 PM. The online meeting link will be provided to you shortly.

Kindly accept our invitation and make it convenient to attend the Board of Studies meeting.

Syllabus for 4/4 B.Tech. under R19 regulations and Syllabus for 3/4 B.Tech. under R20 regulations are enclosed for your kind reference.

Thanking you,


Yours Sincerely,
Dr. K. BRAHMA RAJU
Professor & Head, BHIMAVARAM-534 204.
Department of Mechanical Engineering
S.R.K.R. Engineering College (A)
China Amiram, Bhimavaram,
West Godavari District
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Mobile No. : 9849503522

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PRINCIPAL
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W.G Dist. Andhra Pradesh



SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)
CHINNA AMIRAM :: BHIMAVARAM-534204
DEPARTMENT OF MECHANICAL ENGINEERING

Dt: 16-06-2022

CIRCULAR

This is to inform you that the Department of Mechanical Engineering has scheduled a 10th Board of Studies meeting on 25-06-2022 at 2:00 PM in blended mode (both offline and using zoom virtual meeting platform). In this connection all the Board of Studies members are requested to attend the same.

Agenda:

1. To discuss and finalize the course structure and syllabus for 4/4 B.Tech. Mechanical Engineering program under R19 Regulations.
2. To discuss and finalize the course structure and syllabus for 3/4 B.Tech. Mechanical Engineering program under R20 Regulations.
3. Any other item with the permission of the chair.


Head of the Department
Professor & Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
CHINNA AMIRAM (P.O.)
BHIMAVARAM-534 204.


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WG Dist. Andhra Pradesh

Tenth Board of studies meeting in blended Mode (Both offline and virtual using Zoom Platform) was held on 25-06-2022 (Saturday) in CAD Lab-2 of Mechanical Engineering Department at 2:00 P.M. in order to discuss the following Items:

- 1) Discussion and Finalization of Course structure and Syllabus of 4 $\frac{1}{4}$ B.Tech. Mechanical Engineering program under R19 Regulations.
- 2) Discussion and Finalization of Course structure and Syllabus of 3 $\frac{1}{4}$ B.Tech. Mechanical Engineering program under R20 Regulations.

P. Nagapala Reddy

PRINCIPAL
S.R.K.R. Engineering College(A)
China Amiram, Bhimavaram - 534 204.
W.G. Dist. Andhra Pradesh

MINUTES OF THE MEETING RESOLUTIONS

- (1) Feed Back Collected from various Stake holders like students, Alumni, Employers and parents has been discussed while designing the course structure and syllabus for 3/4 B.Tech. (R20) and 4/4 B.Tech. (R19) Mechanical Engineering program.
 - (2) One of the Bos Members Dr. M. Kumara Sweeney, Associate Professor, Dept. of Mech. Engrs, JNTUK, suggested to add the Manual part programming in CAM Section of CAD/CAM Course.
 - (3) Resolved to offer Program Elective - II and program Elective - IV with 3 courses along with Mooc-III & Mooc-IV in Each Elective Course and Open-Elective-II in First Semester for 4/4 B.Tech Mechanical Engineering program under R19 Regulations.
 - (4) Resolved to offer Open-Elective-III in Second Semester for 4/4 B.Tech Mechanical Engineering program under R19 Regulations.
 - (5) Resolved to offer project work-I in First Semester and project work-II in Second Semester for 4/4 B.Tech. Mechanical Engineering program under R19 Regulations.
 - (6) Finalized the Course Structure and Syllabus for the 4/4 B.Tech. (R19) Mechanical Engrs. program.
 - (7) One of the Bos Members, Dr. G. Ravi Kiran Sasthy Professor, Dept. of Mech. Engrs. NITAP suggested to incorporate Micro mechanics and Macro Mechanics of Laminates in Unit IV of Composite Materials Course which is a program Elective course. for 3/4 B.Tech Mechanical Engrs. program under R20 Regulatory.
 - (8) Resolved to offer the following skill oriented Courses for 3/4 B.Tech. (R20) Mech. Engrs. program.
- | S.NO. | Course Name | Credits | Semester |
|-------|--------------------|---------|----------|
| 1 | Python programming | 2 | First |
| 2 | Soft skills | 2 | Second. |

(A) Resolved to offer the following courses in addition to Regular Courses for 3/4 B.Tech (B20) Mech. Engg. Program

S.NO.	Course Name	Semester
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1	Employability Skills.	First
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2	Gender Sensitization	Second
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(10) Resolved to offer Professional Elective-I with 3 courses as options along with H00cs-I and Open Elective-I in First Semester for 3/4 B.Tech Mechanical Engineering Program under B20 Regulation.

(11) Resolved to offer Summer Internship and Community Service project in the First Semester for 3/4 B.Tech. Mech. Engg. program under B20 Regulation.

(12) Resolved to offer Professional Elective-II with 3 courses as options along with H00cs-II and open Elective-II in the Second Semester for 3/4 B.Tech. Mechanical Engineering program under B20 Regulation.

(13) Finalized the course structure and Syllabus for the 3/4 B.Tech (B20) Mechanical Engg. program.

H. Nagapalli

PRINCIPAL

S.R.K.R. Engineering College(A)
Chinnamiram - Bhimavaram - 534 204
W.G. Dist. Andhra Pradesh

PRINCIPAL
S.R.K.R. Engineering College(A)
Chinnamiram - Bhimavaram - 534 204
W.G. Dist. Andhra Pradesh

RESOLUTIONS FOR THE MEETING DATED 25-06-2022

- (1) Feed Backs Collected from various Stake holders like students, Alumni, Employers and parents has been discussed while designing the course structure and syllabus for 3rd B.Tech. (R20) and 4th B.Tech. (R19) Mechanical Engineering programs.



S.R.K.R ENGINEERING COLLEGE DEPARTMENT OF MECHANICAL ENGINEERING CHINNA AMIRAM: BHIMAVARAM - 534204

Feedback Analysis 2021-22

Feedback on the curriculum is obtained from students, employers, faculty, and alumni. After study of the feedback form various stake holders some important points of the feedback are identified. Total 308 feedback forms have been obtained from various stake holders.

The following are the key points obtained from the study of the feedback.

1. Students need industrial more exposure.
2. Digital classrooms are required for better understanding of the subjects.
3. The experiments in labs need to be updated so that they are more relevant to present industrial needs.
4. More coding classes are required for mechanical engineering students.
5. Digital library is needed for the students.
6. Modern teaching methods are to be incorporated for effective teaching.
7. Course like AI, Robotics, machine learning and data analytics need to be included in the curriculum of mechanical engineering students.
8. Courses should be designed at par with present industry needs.
9. Need more IT related courses for the better placement opportunities to students.
10. Need more elective courses with updated syllabus.
11. Include course on Python in curriculum.
12. Introduce software courses in every semester.
13. Industrial tours are required.
14. Put more programming courses as elective subjects.

Head of the Department
Dept. of Mechanical Engg.
S.R.K.R Engineering College
CHINNA AMIRAM (P.O.)
BHIMAVARAM-534 204

- (2) One of the BOS Members Dr. M. Kumara Suseemy, Associate Professor, Dept. of Mech. Engg, JNTUK, suggested to add the Manual part programming in C++ Section of CAD/CAM Course.

H.P. Narasimha Murthy
PRINCIPAL
S.R.K.R. Engineering College(A)
Chinna Amiram, Bhimavaram - 534 204.

Professor & Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
CHINNA AMIRAM (P.O.)
BHIMAVARAM-534 204

Course Code	Category	L	T	P	C	EM	UM	Exam
B19ME4102	PC	3	—	—	3	25	75	3 Hrs.
CAD/CAM (I or ME)								
Course Objectives: The objective of this course is to								
1 To impart the student with the fundamentals of CAD and Applications of computers in CAD								
2 To acquaint the student with the concepts of Artificial Intelligence in design and manufacturing fields.								
3 To acquaint the student in using advanced modelling approaches and tools for real - world mechanical design problems that will enable him to create comprehensive and professional engineering projects and understand the role of computers in manufacturing.								
4 To educate the student about the role of computers in different phases of manufacturing.								
Course Outcomes: At the end of the course, students will be able to								
S.No	Outcome	Knowledge Level						
1	Understand the fundamentals of CAD and Applications of computers in CAD	K1						
2	Apply the principles of transformations and geometric modeling in CAD	K3						
3	Analyze advanced computational tools for complex part analysis and apply the principles of artificial intelligence and expert systems in CAD applications.	K4						
4	Elaborate concepts of CAM, CNC, group technology and computer aided process planning methods.	K3						
5	Demonstrate various computer aided material handling systems and computer aided inspection and quality control techniques.	K3						
SYLLABUS								
UNIT-I (10 Hrs)	Fundamentals of CAD - Introduction - The design process - Application of computers for design - Operating system - Hardware in CAD. The design work station - I/O Devices - CAD system configuration - Creating database for manufacturing - Benefits of CAD.							
UNIT-II (10 Hrs)	Interactive Computer Graphics - Graphics display devices- Graphics system- Graphics standards - Graphical user interface- Transformation systems- windowing - clipping - 2D and 3D transformations - Linear transformations- Geometric Modeling - Modeling Techniques - Wire frame Modeling - Surface Modeling - 3D Solid Modeling.							
UNIT-III (10 Hrs)	Introduction to Finite Element Analysis - Steps of FEM for solving physical problem, CAD techniques to finite element data preparation- Automatic mesh generation- Presentation of results, CAD applications of FEM.							
UNIT-IV (10 Hrs)	Introduction to Artificial Intelligence - Applications of AI in design and CAD							
UNIT-V (10 Hrs)	Introduction to CNC and CAM; Metro & demerits, Classification, manual part programming, Group technology and Coding systems (OPT2 coding system only)							

Computer aided process planning: Introduction to process planning. Methods of process planning. Computer aided process planning	
UNIT-V (10 Hrs)	Computer aided material handling: Robots, Structure and operation of Robots, robot sensors and applications. Automatic conveyor systems. Automated guided vehicles. Computer aided inspection and quality control. Quality assurance and quality control. Contact and Non-contact inspection. Coordinate measuring machine.
Textbooks:	
1	CAD/CAM-Computer Aided Design/Manufacturing by M.D. Grew and E. W. Zimmer
2	Computer Aided Design and Manufacturing, by Dr. Sadhu Singh, Khanna Publishers
Reference Books:	
1	Computer Integrated Design and Manufacturing, by David D. Bobrow, Mark R. Henderson, Philip M. Wolfe, McGraw-Hill Book Company, Singapore
2	Computer Aided Manufacturing, by P.N. Rao, N.K. Tewari & T.K.undra, Tata Mc Graw- Hill publishing company, Ltd. New Delhi
3	CAD/CAM/UM by Radhakrishna, New age international
Web links:	
1	https://nptel.ac.in/courses/112/102/102
2	https://nptel.ac.in/courses/112/102/1120201

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(3) Resolved to offer Program Elective-II and program Elective-IV with 3 courses along with Mooc-III & Mooc-IV in Each Elective Course and Open-Elective-II in First Semester for 4th Batch Mechanical Engineering program under B19 Regulations.



SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE
(AUTONOMOUS)
(Affiliated to JNTUK, Kakinada) (Recognized by AICTE, New Delhi)
All U.G. Programmes are Accredited by NBA
CHINNA AMIRAM (P.O.) BHIMAVARAM - W.O.D., A.P., INDIA - PIN: 534 204
MECHANICAL ENGINEERING
SCHEME OF INSTRUCTION & EXAMINATION
(Regulation B19)
IV-IV B.TECH
I-SEMESTER
(With effect from 2019-2020 Admitted Batch onwards)

Course Code	Name of the Course	Category	Cr.	L	T	P	Internal Marks	External Marks	Total Marks
B19ME4101	Heat Transfer	PC	3	3	—	—	25	75	100
B19ME4102	CAD/CAM	PC	3	3	—	—	25	75	100
#PE-III	Program Elective-III	PE	3	3	—	—	25	75	100
#PE-IV	Program Elective-IV	PE	3	3	—	—	25	75	100
#OE-II	Open Elective-II	OE	3	3	—	—	25	75	100
B19ME4111	Heat Transfer Lab	PC	1.5	—	—	3	20	30	50
B19ME4112	CAD/CAM Lab	PC	1.5	—	—	3	20	30	50
B19ME4113	Project Work-I	PR	2	—	—	4	20	30	50
TOTAL			20	15	—	10	185	465	650

Course Code		Course
#PE-III	B19ME4103	Project Management
	B19ME4104	Mechatronics
	B19ME4105	Renewable Energy Sources
	B19ME4106	MOCKS - III
	B19ME4107	Power Plant Engineering
#PE-IV	B19ME4108	Robotics
	B19ME4109	Mechanical Vibrations
	B19ME4110	MOCKS - IV
#OE-II	Student has to study one Open Elective offered by CE or CSE or ECE or EEE or IT or S&H from the list enclosed.	

Professor & Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
CHINNA AMIRAM (P.O.)
BHIMAVARAM-534 204.

(4) Resolved to offer Open-Elective-III in Second semester for 4+ B.Tech Mechanical Engineering program under B19 Regulations.



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MECHANICAL ENGINEERING
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SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R19)
IVT V B.TECH
II-SEMESTER
(With effect from 2019-2020 Admitted Batch onwards)

Course Code	Name of the Course	Category	Cr.	L	T	P	Internal Marks	External Marks	Total Marks
B19ME4201	Quality Control and Assurance	PC	3	3	--	--	25	75	100
B19ME4202	Control Systems	PC	3	3	--	--	25	75	100
#OE-III	Open Elective-III	OE	3	3	--	--	25	75	100
B19ME4203	Project Work-II	PR	7	--	--	--	14	60	90
TOTAL			16	9	--	14	135	315	450

#OE-III Student has to study one Open Elective offered by CE or CSE or ECE or EEE or IT or S&H from the list enclosed

(2) Resolved to offer project work-I in First semester and project work-II in Second semester for 4+ B.Tech Mechanical Engineering program under B19 Regulations

(3) Finalized the Course Structure and Syllabus for the 4+ B.Tech. (B19) Mechanical Engg. program.



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Course Code	Name of the Course	Category	Cr.	L	T	P	Internal Marks	External Marks	Total Marks
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B19ME4102	CAD/CAM	PC	3	3	--	--	25	75	100
#PE-III	Program Elective-III	PE	3	3	--	--	25	75	100
#PE-IV	Program Elective-IV	PE	3	3	--	--	25	75	100
#OE-II	Open Elective-II	OE	3	3	--	--	25	75	100
B19ME4111	Heat Transfer Lab	PC	1.5	--	3	20	30	50	50
B19ME4112	CAD/CAM Lab	PC	1.5	--	3	20	30	50	50
B19ME4113	Project Work-I	PR	2	--	4	20	30	50	50
TOTAL			20	15	--	10	185	465	650

Course Code	Course
#PE-III	B19ME4103 Project Management
	B19ME4104 Mechantronics
	B19ME4105 Renewable Energy Sources
	B19ME4106 MOOCs - III
	B19ME4107 Power Plant Engineering
	B19ME4108 Robotics
	B19ME4109 Mechanical Vibrations
	B19ME4110 MOOCs - IV
#OE-II	Student has to study one Open Elective offered by CE or CSE or ECE or EEE or IT or S&H from the list enclosed



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(With effect from 2019-2020 Admitted Batch onwards)

Course Code	Name of the Course	Category	Cr.	L	T	P	Internal Marks	External Marks	Total Marks
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B19ME4202	Control Systems	PC	3	3	--	--	25	75	100
#OE-III	Open Elective-III	OE	3	3	--	--	25	75	100
B19ME4203	Project Work-II	PR	7	--	--	--	14	60	90
TOTAL			16	9	--	14	135	315	450

#OE-III Student has to study one Open Elective offered by CE or CSE or ECE or EEE or IT or S&H from the list enclosed

H. Nagapalli, Asst.
PRINCIPAL
S.R.K.R. Engineering College(A)
Chinna Amiram, Bhimavaram - 534 204.
W.G Dist. Andhra Pradesh

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(3) One of the BOS Members, Dr. G. Ravi Kiran Sasthy Professor, Dept. of Mech. Engg., NITAP suggested to incorporate Micro mechanics and Macro mechanics of Lamina in Unit-2 of Composite Materials Course which is a program elective course for 3/4 B.Tech Mechanical Engg. Program under A20 Regulatory.

Code	Category	L	T	P	C	LM	EM	Exam
B20ME3104	PE	3	-	-	3	30	70	3 Hrs.

COMPOSITE MATERIALS

(For ME)

Course Objectives:

- To impart knowledge about composite materials and their properties and structure.
- To develop the student's skills in understanding the different manufacturing methods available for Metal Matrix and advanced composites.
- Illuminate the knowledge and analysis skills to understand the response of composites to stresses.

Course Outcomes: At the end of the course, students will be able to

S.No	Outcome	Knowledge Level
1.	Describe the functional requirements of reinforcement and matrix and classification of composites based on structure and matrix.	K3
2.	Describe the properties of fibers and matrix for manufacturing polymer and metal matrix composites	K3
3.	Develop competency in composite manufacturing techniques and be able to select the appropriate technique for manufacturing Polymer matrix composites.	K4
4.	Develop competency in composite manufacturing techniques and be able to select the appropriate technique for manufacturing metal matrix composites.	K4
5.	Determine stresses and strains relation in composite materials.	K4

SYLLABUS

UNIT-I (10 Hrs)	Introduction: Definition, Conventional monolithic vs composite materials, Classification of Composite materials, Advantages of composites, Application of composites, functional requirements of reinforcement and matrix
UNIT-II (10 Hrs)	Fibers, types, properties, Fabrication, and its applications: Glass fibers, Carbon fibers, Kevlar fibers, whiskers, and their properties, Introduction to natural fibers Matrix Materials and its Properties: Polymer Matrix, Metal Matrix, Ceramic Matrix
UNIT-III (10 Hrs)	Manufacturing of Polymer matrix composites: Classification - Thermoset & Thermoplastic. Processing of Thermoset Matrix Composites: Wetland layup and spray techniques, Filament winding Process, Pultrusion Process, Autoclave method, Resin Transfer Molding. Processing of Thermoplastic Matrix Composites: Film Stacking, Diaphragm Forming, Thermoplastic Tape Laying, Preparation of Molding compounds (sheet molding and bulk molding compound), Compression molding, Reaction Injection Molding

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UNIT-IV (10 Hrs)	Manufacturing of Metal Matrix Composites Liquid-State Processes - Casting or liquid infiltration, Squeeze casting or pressure infiltration, Centrifugal Casting. Solid-State Processes - Solid State diffusion technique, Hot isostatic pressing. Manufacturing of Ceramic Matrix Composites: Liquid Metal Infiltration, Liquid phase sintering. Manufacturing of Carbon-Carbon composites: Impregnation carbonization Process, Pyrolysis Process, chemical vapor deposition (CVD) process.
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UNIT-V (10 Hrs)	Micromechanics of Lamina: Introduction, Rule-of-mixtures - Mass and Volume fractions of composite - simple problems, Four Elastic Constants of a Fibre Reinforced Composite under (a) Iso Strain condition (b) Iso Stress condition (c) Poisson's Ratio (d) Shear Modulus - Simple problems Macromechanics of Lamina: Introduction, Hooke's law for different types of materials, Elastic Constants of anisotropic Lamina, Relationship of Compliance and Stiffness Matrix to Elastic Constants of a Lamina- Simple problems on Compliance and Stiffness Matrix
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Textbooks:

- Composite Materials by Krishan K. Chawla, 3rd edition, Springer, USA 2011.
- Metal Matrix Composites by Nikhilesh Chawla • Krishan K. Chawla, 2nd edition, 2013.
- Mechanics of composite Materials by Asrar K. Kaw, 2nd Edition, 2006.
- Material Science and Technology by V. C. H. Cahn, Vol. 13, 3rd edition, 2007.

Reference Books:

- Hand Book of Composite Materials by E. D. Lubin, 3rd edition, Tata McGraw-Hill, 2003.
- Composite Materials: Processing and Technology by Muhammad M. Rafiqe, 2nd edition, Academy Press, 2009.
- Composite Materials and structure by P. K. Sinha, IIT Kharagpur, India, 2006.

e-Resources:

- <https://nptel.ac.in/courses/12/104/12104278/>
- <https://nptel.ac.in/courses/12/104/12104168/>

(4) Resolved to offer the following skill oriented courses for 3/4 B.Tech. (A20) Mech. Engg. program
S.No. Course name Credits Semester
1. Python programming 2 First
2. Soft skills 2 Second

Prof. and Head
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Principal
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CHINA AMIRAM (P.O.)
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- 7) Resolved to offer the following courses in addition to Regular Courses for 3/4 B.Tech (B20) Mech. Engg. programs
- | S.No. | Course Name | Semester |
|-------|----------------------|----------|
| 1 | Employability Skills | First |
| 2 | Gender Sensitization | Second |
- (10) Resolved to offer professional Elective-I with 3 courses as options along with H00CS-I and Open Elective-I in First Semester for 3/4 B.Tech Mechanical Engineering Programs under B20 Regulation.
- (11) Resolved to offer Summer Internship and Community Service project in the First Semester for 3/4 B.Tech. Mech. Engg. program under B20 Regulation.
- (12) Resolved to offer professional Elective-II with 3 courses as options along with H00CS-II and open Elective-II in the second Semester for 3/4 B.Tech. Mechanical Engineering program under B20 Regulation.
- (13) Finalized the course structure and Syllabus for the 3/4 B.Tech (B20) Mechanical Engg. programs.



SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JNTUK, Karimnagar) (Recognized by AICTE, New Delhi)
UPE Programme: C, CE, AE, ECE & EE are Approved by NBA
CHINNA AMIRAM (P.O.) : BIDIMAVARAM - W.G.D., A.P., INDIA - PIN: 534 204



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Regulation: R20		III / IV - B.Tech. I - Semester									
MECHANICAL ENGINEERING											
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2020-21 admitted Batch onwards)											
Course Code	Course Name	Category	Cr	L	T	P	Int. Marks	Ext. Marks	Total Marks		
B20ME3101	Dynamics of Machinery	PC	3	3	0	0	30	70	100		
B20ME3102	Design of Machine Elements	PC	3	3	0	0	30	70	100		
B20ME3103	Mechanical Measurements and Metrology	PC	3	3	0	0	30	70	100		
#PE-I	Professional Elective-I	PE	3	3	0	0	30	70	100		
#OE-I	Open Elective-I	OE	3	3	0	0	30	70	100		
B20ME3108	IC Engines and KOM Lab	PC	1.5	0	0	3	15	35	50		
B20ME3109	Metrology Lab	PC	1.5	0	0	3	15	35	50		
B20ME3110	Python Programming Lab (Skill Oriented Course)	SOC	2	1	0	2	-	50	50		
B20ME3101	Employability Skills	MC	0	3	0	0	-	-	-		
B20ME3111	Summer Internship	FR	1.5	-	-	-	-	50	50		
TOTAL			21.5	19	0	8	180	520	700		

	Course Code	Course
#PE-I	B20ME3104	Composite Materials
	B20ME3105	Mechatronics
	B20ME3106	Advanced Strength of Materials
	B20ME3107	MOOCs-I
#OE-I	Student has to study one Open Elective offered by AIDS or CE or CSBS or ECE or EEE or EEE or IT or S&H from the list enclosed.	

Regulation: R20		III / IV - B.Tech. II - Semester								
MECHANICAL ENGINEERING										
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2020-21 admitted batch onwards)										
Course Code	Course Name	Category	Cr	L	T	P	Int. Marks	Ext. Marks	Total Marks	
B20ME3201	CAD/CAM	PC	3	3	0	0	30	70	100	
B20ME3202	Heat Transfer	PC	3	3	0	0	30	70	100	
B20ME3203	Industrial Engineering and Management	PC	3	3	0	0	30	70	100	
#PE-II	Professional Elective-II	PE	3	3	0	0	30	70	100	
#OE-II	Open Elective-II	OE	3	3	0	0	30	70	100	
B20ME3208	CAD/CAM Lab	PC	1.5	0	0	3	15	35	50	
B20ME3209	Heat Transfer Lab	PC	1.5	0	0	3	15	35	50	
B20ME3210	Industrial Engineering Lab	PC	1.5	0	0	3	15	35	50	
B20IS3203	Soft Skills (Skill Oriented Course)	SOC	2	1	0	2	-	50	50	
B20IS3204	*Gender Sensitization	HS	0	2	0	0	-	-	-	
TOTAL			21.5	18	0	11	195	585	700	

	Course Code	Course
#PE-II	B20ME3204	Refrigeration and Air Conditioning
	B20ME3205	Design of Transmission Elements
	B20ME3206	Optimization Techniques
	B20ME3207	MOOCs-II
#OE-II	Student has to study one Open Elective offered by CE or ECE or EEE or EEE or IT or S&H from the list enclosed.	

*Note: Gender Sensitization is a Self-Learning non-credit Audit Course

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