Remedial Classes
2022-23
Phase -I

Department of Mechanical Engineering

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Autonomous)

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GRIET/PRIN/12A/G/22-23 10th July 2023

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

REMEDIAL CLASSES 2022-23

CIRCULAR

FINISHING SCHOOL

This is to inform you all that Remedial Classes will be held for students from 12 July2023.List of students and time tables are send to individual departments.

Dean Finishing School

-

10th July 2023

From
Dean,
Finishing school
GRIET.

To
The HOD
MECH
GRIET

Request for faculty and Class rooms to conduct Remedial classes.

Sir/Madam,

This is to inform you that Finishing school of GRIET is conducting Remedial classes for B.Tech. II year students to clear their backlogs of Sem-I

To conduct the classes, we request you

1) Permit us to use 2 online classes from 3PM -4PM from 12 Jul 2023 to 21 Jul 2023
2) Nominate faculty to teach the following courses:

S.No	YEAR	Course title	No. of Students	Name of the faculty	Signature of the faculty
1	II-I	Basic Electrical and Electronics Engineering (GR20A2017)	14	Mr. D Srinivas	
2	II-I	MATERIALS ENGINEERING (GR20A2039)	10	Dr Ram Subbiah	

Thanking you
Yours Sincerely,
Dr V N Ramadevi

Gokaraju Rangaraju Institute of Engineering and Technology
Mechanical Engineering
Finishing School
Remedial Classes Schedule
12th Jul 2023 to 21st Jul 2023
II B. Tech I Sem

ROOM NO.4301 **TIME: 3-4PM**

S No	Subject (Code)	Year	Name of the Faculty	Session-1	Session-2	Session-3	Session-4
1	Basic Electrical and Electronics Engineering (GR20A2017)	II-I	Mr. D Srinivas Rao	12/07/2023 (3.00 to 4.00)	13/07/2023 (3.00 to 4.00)	14/07/2023 (3.00 to 4.00)	15/07/2023 (3.00 to 4.00)
2	MATERIALS ENGINEERING (GR20A2039)	II-I	Dr Ram Subbiah	18/07/2023 (3.00 to 4.00)	19/07/2023 (3.00 to 4.00)	20/07/2023 (3.00 to 4.00)	21/07/2023 (3.00 to 4.00)

HOD-MECH

Dean, Finishing School

(Faculty Coordinator)

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

Remedial Classes
List of students

Basic Electrical and Electronics Engineering_II-I

Sl.No	Roll.No	Subject Code	Subject Name
1	21241A0332	GR20A2017	Basic Electrical and Electronics Engineering
2	21241A0316		Basic Electrical and Electronics Engineering
3	21241A0347		Basic Electrical and Electronics Engineering
4	21241A0338		Basic Electrical and Electronics Engineering
5	22245A0312		Basic Electrical and Electronics Engineering
6	21241A0325		Basic Electrical and Electronics Engineering
7	21241A0337		Basic Electrical and Electronics Engineering
8	22245A0311		Basic Electrical and Electronics Engineering
9	22245A0314		Basic Electrical and Electronics Engineering
10	21241A0345		Basic Electrical and Electronics Engineering
11	21241A0329		Basic Electrical and Electronics Engineering
12	21241A0310		Basic Electrical and Electronics Engineering
13	21241A0304		Basic Electrical and Electronics Engineering

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

SYLLABUS

SUBJECT:

Basic Electrical and Electronics Engineering Course Code:

L/T/P/C: 3/0/0/3 II Year I Semester

UNIT I: ELECTRICAL CIRCUITS Basic definitions, Types of elements, Ohm's Law, Resistive networks, Kirchhoff's Laws, Inductive networks, Capacitive networks, Series, Parallel circuits and Star-delta and deltastar transformations.

UNIT II: DC MACHINES AND AC MACHINES Principle of operation of DC Generator – emf equation - types – DC motor types – torque equation – applications – three point starter. Principle of operation of alternators – regulation by synchronous impedance method – Principle of operation of induction motor – slip – torque characteristics – applications.

UNIT III: TRANSFORMERS AND INSTRUMENTS Principle of operation of single phase transformers – EMF equation – losses – efficiency and regulation.Basic Principle of indicating instruments – permanent magnet moving coil and moving iron instruments. Cathode ray oscilloscope: Principles of CRT (Cathode Ray Tube), Deflection, Sensitivity, Electrostatic and Magnetic deflection, Applications of CRO - Voltage, Current and frequency measurements.

UNIT IV: DIODE AND IT'S CHARACTERISTICS P-N junction diode, symbol, V-I Characteristics, Diode Applications, Rectifiers – Half wave, Full wave and Bridge rectifiers (simple Problems).

UNIT V: TRANSISTORS P-N-P and N-P-N Junction transistor, Transistor as an amplifier, SCR characteristics and applications.

Text/Reference Books: 1. DavidV. Kerns,JR.J. David Irwin, Essentials ofElectricalandComputerEngineering. 2. V.K.Mehta,S.Chand &Co, Principles ofElectricaland ElectronicsEngineering. 3. M.S Naidu and S. Kamakshaiah, Introductionto ElectricalEngineering, TMH Publications. 4. Kothariand Nagarath, Basic ElectricalEngineering, TMH Publications, 2nd Edition.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

Faculty Report on Subject

(Topics covered)

Subject: Basic Electrical and Electronics Engineering

UNIT I:

- ELECTRICAL CIRCUITS Basic definitions,
- Types of elements, Ohm's Law, Resistive networks, Kirchhoff's

UNIT II: DC MACHINES AND AC MACHINES

- Principle of operation of DC Generator – emf equation - types –
- DC motor types – torque equation – applications – three point.

UNIT III: TRANSFORMERS AND INSTRUMENTS

- Principle of operation of single phase transformers – EMF equation

UNIT IV: DIODE AND IT'S CHARACTERISTICS

- P-N junction diode, symbol, V-I Characteristics,
- Diode Applications, Rectifiers

UNIT V: TRANSISTORS

- P-N-P and N-P-N Junction transistor,
- Transistor as an amplifier, SCR characteristics and applications.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

IMAGES OF CLASSES TAKEN

Basic Electrical and Electronics Engineering

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

ATTENDENCE CUM RESULT TABLE

Autonomous

S.NO	Roll.N0	12-07-2023	13-07-2023	14-07-2023	15-07-2023	Result
1	21241A0332	P	P	P	A	PASS
2	21241A0316	P	P	P	P	PASS
3	21241A0347	A			P	PASS
4	21241A0338			P	P	PASS
5	22245A0312		P		P	PASS
6	21241A0325	A	P		P	FAIL
7	21241A0337			P	P	FAIL
8	22245A0311		P	P	P	PASS
9	22245A0314	A	P		P	PASS
10	21241A0345	A			P	FAIL
11	21241A0329			P	P	FAIL
12	21241A0310		P		P	FAIL
13	21241A0304	A	P	P	P	PASS

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

FINISHING SCHOOL

REMEDIAL CLASSES (Academic support for students) Student Feed Back

Branch: MECH Year: II Sem: I

Subject: Basic Electrical and Electronics Engineering

Faculty Name: Mr D Srinivas Rao

S.No	Item	Feedback
1	Material presented	✓Excellent/Very Good/Good/Average/Below Average
2	Teaching Clarity	✓Excellent/Very Good/Good/Average/Below Average
3	Covering of important topics	Excellent/✓Very Good/Good/Average/Below Average
4	Doubts clarification	Excellent/✓Very Good/Good/Average/Below Average

Suggestions:

Dean Finishing School

GOKARAJU RANGARAJU
INSTITUTE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

Remedial Classes
List of Students

MATERIALS ENGINEERING_II-I

Sl.No	Roll.No	Subject Code	Subject Name
1	21241A0319	GR20A2039	Materials Engineering
2	21241A0338		Materials Engineering
3	21241A0325		Materials Engineering
4	22245A0311		Materials Engineering
5	22245A0314		Materials Engineering
6	21241A0345		Materials Engineering
7	21241A0329		Materials Engineering
8	21241A0310		Materials Engineering
9	21241A0304		Materials Engineering
10	21241A0331		Materials Engineering

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

GR20A2039 - MATERIALS ENGINEERING **L/T/P/C: 2/1/0/3** **II Year I Semester**

UNIT I Structure of metals & mechanical property measurements: Bonds in Solids, crystallization of metals, grain and grain boundaries, effect of grain boundaries on the properties of metal, determination of grain size. Imperfection in solids: Point, line, interstitial and volume defects; dislocation strengthening mechanisms and slip systems, Tensile, compression and torsion tests; Young's modulus, true and engineering stress-strain curves, Hardness: Rockwell, Brinell and Vickers and their relation to strength.

UNIT II Alloys & Phase diagrams: Necessity of alloying, Solid solutions, Types of Solid Solutions, Hume Rothery's rule, Intermediate alloy phases, effects of various alloying elements on steels, microstructure development, eutectic, peritectic, peritectoid. Iron Iron-carbide phase diagram and micro structural aspects of ledeburite, Austenite, Ferrite, Martensite and Cementite.

UNIT III Heat treatment of steel: Annealing, Tempering, Normalizing, Hardening, Jominey quench Test for Hardenability, isothermal transformation diagrams, Continuous cooling curves and interpretation of final microstructures, austempering, martempering, case hardening, carburizing, nitriding, cyaniding, carbo-nitriding, flame , induction & cryogenic hardening.

UNIT IV Ferrous & Non ferrous metals: Steels, Types of steels, Properties and applications of Plain carbon steels, stainless steel and tool steels, maraging steels, cast irons; grey, white, malleable and spheroidal cast irons, copper and copper alloys, aluminium, alloys-Nickel based super alloys and Titanium alloys.

UNIT V Ductile, brittle failures, composites & ceramics: Stress strain curves for brittle and ductile materials, differences between brittle and ductile fractures, Tresca, Von-mises, Maximum normal stress, Griffith criterion, Fatigue failure, SN curve, ceramics, glasses, cermets, abrasive materials, Composite materials: Classification of composites, various methods of manufacture of composites, particle–reinforced materials, fibre-reinforced materials, metal ceramic mixtures, metal–matrix composites and Carbon–Carbon composites.

Text/Reference Books:

1. W.D.Callister, 2006, "Materials Science and Engineering-An Introduction", 6th Edition, Wiley India.
2. Kenneth G.Budinski and Michael K.Budinski, "Engineering Materials", Prentice Hall
3. V.Raghavan, "Material Science and Engineering', Prentice Hall of India Private Limited, 1999.
4. U.C.Jindal, "Engineering Materials and Metallurgy", Pearson, 2011.

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

Faculty Report on

MATERIALS ENGINEERING

(Topics covered)

UNIT I Structure of metals & mechanical property measurements:

- *Bonds in Solids, crystallization of metals, grain and grain boundaries,*
- *effect of grain boundaries on the properties of metal,*

UNIT II Alloys & Phase diagrams:

- *Necessity of alloying, Solid solutions, Types of Solid Solutions,*
- *Hume Rothery's rule, Intermediate alloy phases, effects of various alloying elements*

UNIT III Heat treatment of steel

- *Annealing, Tempering, Normalizing,*
- *Hardening, Jominey quench Test for Hardenability, isothermal transformation diagrams, Continuous cooling*

UNIT IV Ferrous & Non ferrous metals:

- *Steels, Types of steels, Properties and applications of Plain carbon steels,*
- *stainless steel and tool steels, maraging steels, cast irons; grey, white.*

UNIT V Ductile, brittle failures, composites & ceramics

- *Stress strain curves for brittle and ductile materials,*
- *differences between brittle and ductile fractures, Tresca, Von-mises, Maximum normal stress, Griffith criterion, Fatigue failure, SN curve, ceramics, glasses,*

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

Materials Engineering

ATTENDENCE CUM RESULT TABLE I B.Tech. 2022-2023

S.NO	Roll.N0	18-07-2023	19-07-2023	20-07-2023	21-07-2023	Result
1	*21241A0319*	P	A	A	P	PASS
2	*21241A0338*	P	P	A	P	PASS
3	*21241A0325*	P	P	P	P	FAIL
4	*22245A0311*	P	P	A	P	PASS
5	*22245A0314*	P	P	A	P	PASS
6	*21241A0345*	P	P	A	P	FAIL
7	*21241A0329*	A	P	P	P	FAIL
8	*21241A0310*	P	A	P	P	PASS
9	*21241A0304*	P	A	P	P	PASS
10	*21241A0331*	P	P	A	A	FAIL

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

IMAGES OF CLASSES TAKEN

Subject: Materials Engineering

Faculty: Dr Ram Subbiah

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

FINISHING SCHOOL

REMEDIAL CLASSES (Academic support for students) Student Feed Back

Branch: MECH Year: II Sem: I

Subject: Materials Engineering

Faculty Name: Dr Ram Subbiah

S.No	Item	Feedback
1	Material presented	✓Excellent/Very Good/Good/Average/Below Average
2	Teaching Clarity	✓Excellent/Very Good/Good/Average/Below Average
3	Covering of important topics	Excellent/✓Very Good/Good/Average/Below Average
4	Doubts clarification	Excellent/✓Very Good/Good/Average/Below Average

Suggestions:

Dean Finishing School

GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

Report on Remedial Classes

This is to inform you that Finishing school of GRIET is conducting Remedial classes for B.Tech. II year, I Sem students to clear their backlogs.

Details are

1. Remedial classes are conducted in different Subjects to support the students in clearing their backlogs. As the first step, classes are held for Final year and marched out batches in three different schedules. Students were informed through SMS. Students shown lot of interest .Faculty gave tips as well as material for the students.80-90% of the students who have attended got benefit and they passed in the exams.

2. The classes are aimed to help the students having a maximum of threebacklogs so that they will get the degree as per their academic calendar. Students preferred material and few tips as they were busy in Projects. For some subjects they came and attentive.
3. The sessions for II & III-year students are to prevent failure rate and thereby increasing transition rate. The subjects are selected based on I-semester results. To increase attendance for the classes a brief motivation lecture is organized with the key note address by HOD.

   The following shows the courses for which Remedial classes are held and the Transition rate in such course:

S.No	Course	No.of students attended	No.of students passed	Transition rate
1.	Basic Electrical and Electronics Engineering	13	8	62%
2.	Materials Engineering	10	6	60%