2.2.1 The institution assesses the learning levels of the students & organizes special Programmes for advanced learners and slow learners.

Assessment of Student Diversity

The institution assesses the learning levels of the students at the commencement of the programme through Academic history of the student (available in college admission desk)

On the basis of the assessment, the students are categorized as slow, medium and advanced learners. Different strategies are adopted to cater to the diversity of students so as to improve their quality and performance.

Strategies for Slow Learners

The remedial measures taken:

1. Remedial classes based on the specific needs of students.
2. Special lessons by teachers under the scheme Bridge Courses
3. Preparation and distribution of self-learning materials
4. Motivation to engage in clubs
5. Group assignments and projects.
6. Personal counselling and motivation
7. Focused interactions with parents
8. Financial aid to disadvantaged students.
9. Collection and distribution of used books to the needy students.
10. Stock of books and study materials in the department library for slow learners.

Strategies for Medium Level Learners

1. Capacity building
2. Peer teaching
3. Career orientation
4. Assignments and projects to enhance learning capabilities
5. Competitions
6. Extra curricular activities
7. Internships.
8. Plant visit

Strategies for Advanced Learners

1. Guidance to register in online courses in MOOC, NPTEL platforms.
2. Directions to use e-resources in INFLIBNET, N-List and other e-platforms.
3. Participation in national seminars/workshops/project presentations
4. Cash awards, medals, merit certificates and other recognitions for their achievements

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5. Opportunity to represent the college in National and state level intercollegiate competitions.
6. Special training for competitive examinations.
7. Peer teaching.
8. Career orientation

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Sample of Remedial class-test Question

Netaji Subhas Institute of Technology, Bihta, Patna

Amhara, Bihta, Patna

Affiliated to Bihar Engineering University, Patna

Department of Electrical & Electronics Engineering

Remedial Class Test- I

Semester – 3rd

Subject : Electrical Machine-I

Time – 1hr.

Guideline:

1.Write any Two out of Five.

Branch - EEE

Session - (2022-2026)

Maximum Marks:10

Date: 02/07/24

S.No.	Question	Marks
1.	Determine the flux density at a point 60mm in air form along straight Conductor carrying a current of 500 A.	5
2.	State the following: (a) Flemings right-hand rules. (b) Flemings left-hand rules. (c) Simplified right-hand rules.	5
3.	Derive the e.m.f. of equation of a d.c. generator.	5
4.	Derive the torque equation of a d.c. motor?	5
5.	Explain the losses in transformer?	5

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Sample of Remedial class-test Answer-booklet

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B. Tech.

Remedial **CLASS TEST** 3rd Semester

Name of Candidate (in Block Capital): RISHU RAJ
Roll No. 22Ms01 Date 06/12/24 Subject Electronic Devices Branch E.E.E
Total Marks: 07/10 Signature of invigilator

Ans 5) Losses in transformer:

The following power losses may occur in a practical transformer.

i) Iron loss or core loss
ii) copper loss or I^2R loss
iii) Stray loss
iv) Dielectric loss

i) Iron loss: The iron loss occurs in the magnetic core of the transformer due to flow of alternating magnetic flux through it.
For this reason, the iron loss is also called core loss.

Iron loss P_i = Hysteresis loss (P_h) + Eddy current loss (P_e)

where $P_h = K_h f B_m^x$
and $P_e = K_e B_m^2 f^2 t^2$

ii) Copper loss or I^2R loss:
Power loss in a transformer that occurs in both the primary and secondary winding due to their ohmic resistance is called copper loss or I^2R loss.

copper loss (P_c) = copper loss in primary + copper loss in secondary
$(P_c) = I_1^2R_1 + I_2^2R_2$

iii) Stray loss: in practical transformer, a fraction of total flux follows a path through air and this flux is called leakage flux. This leakage flux produces eddy currents in the conducting or metallic parts like tank of the transformer. These eddy currents cause power loss, which is known as stray loss.
iv) Dielectric loss: The power loss occurs in insulating materials like oil, solid insulation of the transformer etc. is known as dielectric loss. The dielectric loss is significant only in transformers working on high voltages.

(7)

Ans 3) Emf equation of DC Generator:

Let
ϕ = magnetic flux per pole in wb
Z = Total number of armature conductors
P = Number of poles in the machine
A = Number of parallel paths
where A = P for lap winding
A = 2 for wave winding
N = Speed of armature in RPM
E_g = Generated Emf = Emf per parallel path

Therefore, the magnetic flux cut by one conductor in one revolution of the armature is
$d\phi$ = magnetic flux per pole in wb $\times$ P
$= P \times \phi$ wb

∴ Time taken in completing one revolution is given by
$dt = \frac{60}{N}$ seconds

Hence the Emf generated per conductor is,
$E_g/\text{per conductor} = \frac{d\phi}{dt} = \frac{P\phi}{60/N} = \frac{P\phi N}{60}$

∴ The number of conductors in series per parallel path is

No. of conductors / parallel path = $\frac{Z}{A}$

Therefore
Total Generated Emf
E_g = (E_g/per conductor) × (No. of conductors / parallel path)

$\Rightarrow E_g = \frac{P\phi N}{60} \times \frac{Z}{A}$

Hence, the Emf equation of a DC generator:

$$E_g = \frac{P\phi N Z}{60A}$$ Ans

(5)

For lap winding,
$$E_g = \frac{\phi N Z}{60}$$

For wave winding,
$$E_g = \frac{P\phi N Z}{120}$$

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Sample of Remedial class-test Marks-Sheet

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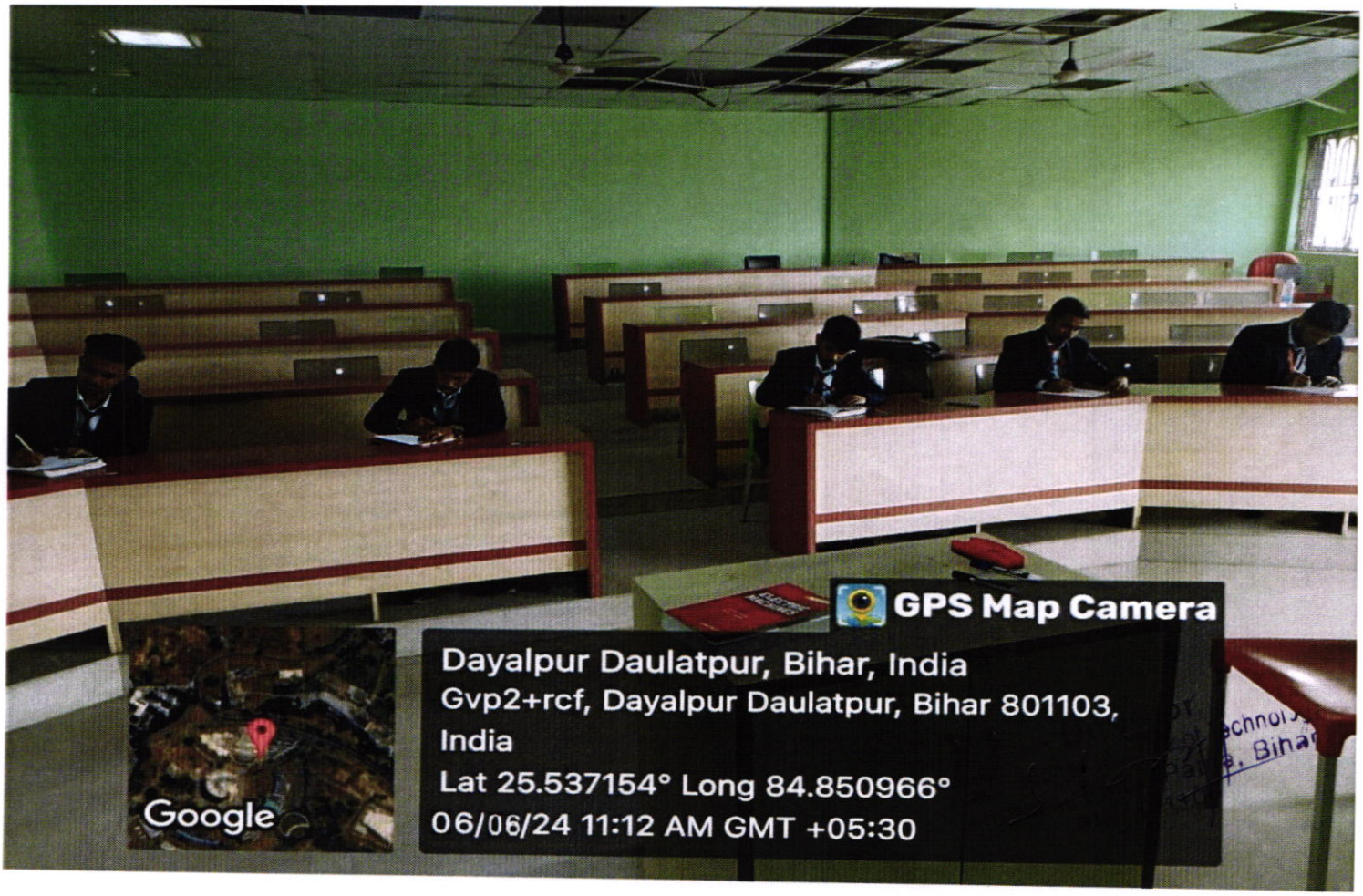
Remedial Class Test Marks-Sheet

B. Tech- 3rd semester
Branch - EEE
Subject: Electrical Machine-I
Maximum Marks: 10

Date- 02/07/24
Time – 1 Hr
Session - (2022-2026)

SI.NO	REGISTRATION NUMBER	NAME	MARKS OUT OF (10)
1.	22110103005	MUKUND KUMAR	07
2.	22110103003	MANIKANT KUMAR PASWAN	08
3.	22110103010	RISHU RAJ	09
4.	22110103007	SWATI KUMARI	06
5.	23110103904	AKASH KUMAR	07

Sample of Remedial class conducted



REMEDIAL CLASSES

In order to enhance the learning capability of the students, different ways of instructions are used. The help of audio visual sources, videos , movies is found to have great impact on the perception of ideas and conceptual clarity. The slow learners are given Remedial classes and lab tutorials to improve their learning.

Sample of Remedial classes- attendance for 3rd sem.

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REMEDIAL CLASS (ATTENDANCE-SHEET)

B. Tech-3rd semester
Subject – Electrical Machine -I

Branch - EEE
Batch – (2020-2026)

Sl.No	Registration Number	Name of Students	DATE - 2024													
			4/6	5/6	6/6	10/6	11/6	12/6	13/6	14/6	18/6	19/6	20/6	21/6	25/6	27/6	28/6
1	22110103005	MUKUND KUMAR	P	P	P	Ab	P	Ab	P	Ab	P	P	Ab	P	P	P	P
2	22110103001	HIMANSHU OJHA	Ab	P	P	P	Ab	P	P	P	Ab	Ab	P	P	P		Ab
3	22110103003	MANIKANT KUMAR PASWAN	P	Ab	Ab	P	P	P	P	Ab	P	P	P	P	P	P	P
4	22110103002	NILESH KUMAR SINGH	P	P	P	P	P	Ab	P	Ab	P	P	P	P	P	Ab	P
5	22110103004	AKHLAK AHMAD	P	P	P	Ab	P	P	P	Ab	P	P	P	P	P	Ab	Ab
6	22110103006	SIDHARTH KUMAR	Ab	P	P	P	P	Ab	P	P	Ab	P	P	P	Ab	P	P

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REMEDIAL CLASS

The students who need special care and support in academics are given remedial coaching by the teachers. The classes are taken with a focus on the topics that are already taught in the class, which are explained again in the remedial classes for the students who have difficulty in understanding them easily.

Sample of Remedial Class Report

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Deparment of Electrical & Electronics Enginreeing.

Report of Remedial-Class 2023-2024.

In order to help the students to understand the subject clearly and to clarify the doubts for the slow-learning students, the department of EEE conducted regular sessions. This was to help them to pick up with the other students of our class. The classes were scheduled from 3:30 Pm to 4:30 Pm and during free hours. Remedial classes for the students of UG were engaged by the faculty of the department. This class is mainly for those students who need special care and attention. The teacher engaged extra time for the student activity to participate in the classes. In this class, faculty provide the additional notes, assignments, and work with the help of a blackboard to explain the diagram, derivation, and graphics that were explained to students.

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- Extra curricular activities

- Group Discussion

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- Award for best project

- Plant Visit

For advanced Learner

- **Toppers are motivated by giving Award**

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Conducting Career orientation Program

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