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SUBJECT CODE NO: H-250
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E. (EEP/EE/EEE)
Elective-II Electric Traction & Utilization
(REVISED)

[Time: Three Hours]

[Max. Marks: 80]

Please check whether you have got the right question paper.

- N.B
- i) Q. 1 & Q. 6 are compulsory
 - ii) Solve any two from section A & B excluding compulsory questions
 - iii) Assume suitable data

Section A

- Q.1 Attempt any five 10
- a) What are the requirement of electric traction system?
 - b) Give the principle of motor.
 - c) Give the principle of generator
 - d) What is the function of battery in electric traction system?
 - e) What is the different between alternator and motor?
 - f) What is the function of trolley bus?
 - g) Give the function of tramways.
 - h) Give the function of current collectors.
- Q.2
- a) Explain current collectors in details 08
 - b) Explain construction and working of tramways and trolley buses. 07
- Q.3
- a) Explain signaling interference in telecommunication circuits 08
 - b) Explain AC electric locomotive with block diagram 07
- Q.4
- a) Explain constructional details of DC-traction system 08
 - b) Explain single phase series motor with suitable diagram 07
- Q.5
- a) Write a short note on substation equipment 08
 - b) Write a short note on single phase low frequency AC system 07

Section B

- Q.6 Attempt any five 10
- a) Give the function of controllers
 - b) Give the methods of traction motor control
 - c) Draw the symbol of SCR and give its function
 - d) What is mean by braking in electric traction system
 - e) What are the advantages of electric braking system over mechanical braking any two
 - f) What are the different Cooling systems
 - g) What are the different components of substation.
 - h) Draw the regenerative braking diagram of DC shunt motor

- Q.7 a) Explain multiple unit control 08
b) Explain energy output and energy consumption in train movement and braking 07

- Q.8 a) Explain magnetic track braking system 08
b) Explain central air conditioning system 07

- Q.9 a) Explain suitability of series motor for traction duty 08
b) Explain refrigeration system 07

- Q.10 a) Write a short note on run back prevention 08
b) Write a short note on tractive effort calculations 07