S.B. Roll No……..

MODREN ELECTRIC TRACTION SYSTEM

6th/Elect/6252/5235/May'16

Duration: 3hrs. **M. Marks =75**

SECTION A

Q.1. Fill in the blanks: **1.5x10=15**

i. During free run …….. remains constant.
ii. For supply on 25KV,50Hz single phase suitable motor for electric traction is ……
iii. Mostly d.c ……motor is employed for electric traction.
iv. In ……braking, electrical energy is fed back to supply.
v. Magnetic brakes are employed on …….
vi. TPC stands for ……..
vii. ……electrical system is preferred for Electric traction.
viii. In a "Kando system". ……motors are used.
ix. Automatic voltage regulators limits the ……..on the secondary side
x. …….motors are suitable where heavy starting torque is required.

SECTION B

Q2. Attempt Any FIVE: **5x6=30**

i. Discuss briefly the methods of speed control of single phase a.c. series motors.
ii. Describe the special features of a traction motors.
iii. Explain the major equipments of a substation.
iv. What is the difference between rheostatic braking and plugging?
v. Write a note on linear induction motor.
vi. Why the series motor is considered ideally suited for traction work?
vii. What is the purpose of smoothing reactors?
viii. Explain constitutes of power supply system.

SECTION C

Q.3. Attempt any THREE questions: **3x10=30**

i. Explain with neat sketch the block diagram of electric locomotive.
ii. Explain the different types of catenary construction.
iii. Describe the various types of air conditioning installation used in Indian railway coaches?
iv. Explain the various characteristics of d.c. series motors.
v. Explain Electric traction in detail and Write its advantages over other systems.