

S.B. Roll No.....

**MODERN ELECTRIC TRACTION**  
**6<sup>TH</sup> Exam/5235/Elect./May-2017**

**Duration: 3 Hrs.**

**Max. Marks:75**

**SECTION-A**

**Q 1.Fill in the blanks: -**

**10x1.5=15**

- a) During free run..... remains constant.
- b) Steep gradient will involve..... energy consumption.
- c) For supply of 25KV,50Hz 1phase suitable motor for electric traction is.....
- d) OHE stands for.....
- e) In ..... Braking, electrical energy is fed back to supply.
- f) In train lighting system, dynamo has to operate in ..... with batteries.
- g) ..... smoothen out ripples in the d.c. o/p of rectifier.
- h) ..... system is preferred for main line railways.
- i) Feeding posts are located close to S/S of maximum distance of .....
- j) ..... detects the low oil pressure in transformer.

**SECTION-B**

**Q 2. Attempt any five question:-**

**5x6=30**

- i. State the main requirements for an ideal traction system.
- ii. Why the series motor is ideally suited for traction duty?
- iii. What is the function of tap changer? Explain.
- iv. Write notes on:- **(a)** Sectioning and paralleling post. **(b)** Elementary section.
- v. Explain the principle of linear induction motor..
- vi. What type of installation is necessary for rail coach air conditioners?
- vii. Compare AC and DC system of traction.

**SECTION-C**

**Q3. Attempt any Three question:-**

**3x10=30**

- 1. Explain speed time curve. Also discuss the factors affecting slip.
- 2. (a) Classify electric traction system in detail.  
(b) Discuss Kando system
- 3. Discuss types of electric braking. What are the advantages of regenerative braking?
- 4. Explain modified train lighting system with diagram.