8. Write short notes on the following :

(a) Regenerative braking

(b) Plugging

(c) Electric braking

(d) Reverse current braking

(e) Quill drive. **20**

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B. Tech. EXAMINATION, Dec. 2017

(Eighth Semester)

(Old Scheme) (Re-appear Only)

(EE)

EE-466

UTILIZATION OF ELECTRIC POWER & TRACTION

Time : 3 *Hours*] [*Maximum Marks :* 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. All questions carry equal marks.

1. Define and explain the following terms : **20**

(a) MHCP

(b) MSCP

(c) MHSCP

(d) Flux

(e) Plan angle

(f) Solid angle

(g) Glare

(h) Waste light factor

(i) Brightness

(j) Steradian.

2. Explain with the neat diagram the principle of operation of electrical discharge lamp. State the advantages and disadvantages of discharge lamp over the filament lamp and give their applications. **20**

3. (a) A 250 CP lamp is hung 4m above centre of a circular area of 6m diameter. Calculate the average illumination if reflector of 60% efficiency is used ? **10**

(b) Explain the basic laws of illumination. **10**

4. What are high frequency heating. Explain induction heating in detail. Also give its advantages. **20**

5. Discuss the following : **20**

(a) Atomic hydrogen welding

(b) Inert gas metal welding

(c) Submerged arc welding

(d) Carbon arc welding

(e) ac and dc supply used for arc welding.

6. (a) Explain Faraday's laws of electrolysis. **10**

(b) Define electroplating. Also explain capacity and efficiency of battery. **10**

7. (a) Deduce the expression for the tractive exerted by road wheel in terms of wheel diameter, motor diameter, gear ratio, efficiency of transmission of power through gear. **10**

(b) Write a short note on speed-time curve. **10**