

**B. Tech. (EE) Program Elective-IV 7th Semester
(G-Scheme) Examination, November-2023**

UTILIZATION OF ELECTRICAL POWER

Paper-PEC-EE-405-G

Time allowed : 3 hours]

[Maximum marks : 75

*Note: Attempt five questions in all. Q. No. 1 is compulsory.
Attempt four more questions from the Sections A,
B, C & D by selecting at least one question from
each section.*

1. (a) Explain the factors of 'choice of motor' for a particular application. 6×2.5=15
- (b) What are the advantages of Electric heating?
- (c) Explain Polar curves related to Illumination in brief.
- (d) What are Connection costs and charges in regard to DG?
- (e) Explain the Special features of traction motors.
- (f) What do you mean by electric traction?

Section-A

2. Explain starting and running characteristics as well as speed control of Electric drives. 15
- or
3. What is load equalization? Explain continuous, intermittent and variable loads. 15

Section-B

4. Write short note on: 15

(i) Electric welding

(ii) Resistance and arc welding

or

5. Explain electric heating, resistance heating and induction heating in detail. 15

Section-C

6. Explain laws of illumination. Discuss photometry and integrating sphere in detail. 15

or

7. Compare tungsten filament lamps and fluorescent tubes. 15

Section-D

8. Explain the methods of electric braking - plugging and regenerative braking in detail. 15

or

9. Discuss the Mechanics of train movement in detail. 15

**B. Tech. (EE) - Program Elective-V 7th Semester,
(G-Scheme) Examination, November-2023**

ADVANCED POWER TRANSMISSION

Paper-PCC-EE-415G

Time allowed : 3 hours]

[Maximum marks : 75

Note: *Attempt five questions in all, selecting one question from each section. Question Number 1 is compulsory.*

1. (i) What are the features of EHV transmission lines. 15
- (ii) Write brief about the starting of dc link.
- (iii) Write the basic FACTS controllers
- (iv) What are the power quality issues

Section-A

2. Explain the surface voltage gradient on conductors. 15
3. The dimensions of a ± 400 kV dc line are shown in Figure 1 15

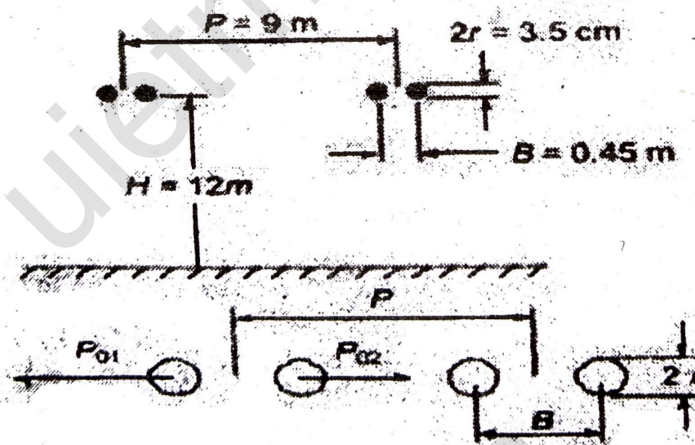


Figure - 1

Calculate

- (a) The charge coefficient $0 Q/2pe$ for each bundle,
- (b) The maximum and minimum surface gradient on the conductors by
 - (i) Omitting the charges of the second pole and image conductors,
 - (ii) Considering the charge of the second pole but omitting the charge of the image conductors,

Section-B

- 4. Write short note on: 15
 - (a) Converter station
 - (b) Characteristics of dc link.

- 5. Explain the advantages of DC transmission. 15

Section-C

- 6. Explain the Series Connected Controllers in brief. 15
- 7. What are the transmission problems, explain it. 15

Section-D

- 8. Write short note on: 15
 - (a) Mitigation of power quality
 - (b) Power quality disturbances
- 9. Write short note on: 15
 - (a) Control of power quality
 - (b) Factors affecting power quality.

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**B. Tech. (EE) Open Elective-III 7th Semester,
(G-Scheme) Examination, November-2023
RENEWABLE ENERGY AND DISTRIBUTED
GENERATION**

Paper-OEC-EE-403-G

Time allowed : 3 hours] [Maximum marks : 75

Note: Attempt five questions in all. Question No.1 is compulsory. Attempt four more question from the Sections A, B, C & D by selecting at least one question from each section.

1. (a) What do you mean by distributed generation?
(b) Discuss four points on Impact of distribution generation on power system.
(c) What is a solar PV module?
(d) How will the grid integration impact consumers? Explain with suitable examples.
(e) What are the criteria for site selection in wind mill?
(f) What are the classifications of fuel cell energy? $6 \times 2.5 = 15$

Section-A

2. (a) Distinguish between central and distributed generation with their advantages and disadvantages. 15

(2)

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or

3. Explain internal combustion engine in detail. 15

Section-B

4. Explain the operation of hybrid solar PV and wind power system. 15

or

5. Classify the solar cells. Derive an expression for the power developed due to wind. 15

Section-C

6. What are the various issues of power quality? Explain in detail various power quality disturbances. 15

or

7. Explain in brief advantages and disadvantages in integrating power electronics with the grid. 15

Section-D

8. Explain in brief economics of distributed generation. 15

or

9. What are the significances of islanding in interconnected grid? 15

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**B. Tech. (EE) Open Elective-IV 7th Semester, G-Scheme
Examination, November-2023**

ELECTRONIC PRINCIPLES

Paper-OEC-ECE-451-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: *Attempt five questions in all selecting at least one question from each section. Question No.1 is compulsory.*

1. Explain the following:

6×2.5

- (a) Diode as a circuit element
- (b) Voltage multiplier
- (c) LCD
- (d) NOR Gate
- (e) MOSFET
- (f) Sequential v/s combinational circuits

Section-A

2. (a) Explain the operation of Diode as a Clamper. 8

(b) Explain full wave rectifier in detail. 7

Or

3. Describe the P-N junction diode with its I-V characteristics. Also write some applications of Diode. 15

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Section-B

4. (a) Write down some difference between BJT and UJT. 7
- (b) Draw the I-V characteristics of BJT for Common Emitter configuration. 8

Or

5. (a) Explain DIAC in detail. 8
- (b) Define how Zener Diode works as a voltage regulator. 7

Section-C

6. (a) Explain the working of LED. 7
- (b) Which one is better between LCD & LED? Why? 8

Or

7. Write short notes on:
- (a) Seven Segment Display 7.5
- (b) Sixteen Segment Display 7.5

Section-D

8. (a) Explain basic logic gates in detail. 7
- (b) Discuss the basics of flip-flop. 8

Or

9. (a) What are combinational circuits? How they are different from Sequential circuits? 8
- (b) Explain Number Systems in detail. 7

**B. Tech. 7th Semester (CSE) Open Elective-1
(G-Scheme) Examination, November-2023
FUNDAMENTALS OF MANAGEMENT**

Paper-HSMC-08-G

Time allowed : 3 hours]

[Maximum marks : 75

Note: Attempt five questions in all, selecting one question from each unit. Question no. 1 is compulsory. All questions carry equal marks.

- 1.** Write short notes in 40 -50 words: 6×2.5=15
- (i) Definition of Management
 - (ii) Production Management
 - (iii) Types of Training
 - (iv) Define Marketing Research
 - (v) Various sources of finance
 - (vi) Objectives of Marketing Management

Unit-I

- 2.** What do you mean by Personnel management?
Also explain various function of personnel management. 15
- 3.** Define management. Explain various principles of management. 15

Unit-II

4. What is meant by production management? Explain various objectives and functions of production management. 15
5. Define Inventory control. Also explain various methods of inventory control. 15

Unit-III

6. Explain the term Marketing. Explain various objectives and functions of marketing management. 15
7. What do you mean by Advertising? Explain its objectives and functions. 15

Unit-IV

8. Define Financial Management. Explain the objectives and functions of financial management. 15
9. What is capital structure? Explain various short term and long term sources of finance. 15