Roll No. .....

3558

B. Tech. 7th Semester (EE) Program
Elective-IV
Examination – February, 2022

UTILIZATION OF ELECTRICAL POWER

Paper : PEC-EE-405-G

Time : Three hours] *[Maximum Marks : 75*

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

Note : Attempt any ***five*** questions, selecting at least ***one*** question from each Unit. All questions carry equal marks.

1. Write short notes on the following : 15

(a) Why we need electric drive ?

(b) What are the various electric welding equipment ?

(c) What do you mean by polar curve ?

(d) How we can do track electrification ?

UNIT – I

2. What are the starting and running characteristics of electric drive ? 15

3. Write short note on : 15

(a) Load equalization

(b) Speed control

UNIT – II

4. Explain the comparison between AC and DC welding. 15

5. Write short note on : 15

(a) Resistance heating

(b) Dielectric heating

UNIT – III

6. Explain the comparison between tungsten filament lamp and fluorescent tube. 15

7. Write short note on : 15

(a) Integrating sphere

(b) Discharge lamp

UNIT – IV

8. Explain the various method of electric breaking in traction. 15

9. Explain trapezoidal and quadrilateral speed time curve. 15

Roll No. .....

3563

B. Tech. 7th Semester (EE) Program Elective-V Examination – February, 2022

ADVANCED POWER TRANSMISSION

Paper : PEC-EE-415-G

Time : Three Hours] *[Maximum Marks : 75*

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

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

1. (a) What is a bundled conductor ? What are the advantages of bundled conductors ?

(b) What are the factors that limit the maximum power transfer capability in a transmission line ?

(c) What are the advantages of HVDC over EHV AC ?

(d) What is meant by monopolar link ?

(e) What is meant by lexible AC Transmission system(FACTS) ?

(f) What are the cause for swells and interruptions ?

$2.5 \times 6 = 15$

SECTION – A

2. (a) Discuss why EHV A. C. lines are necessary to transmit large block of power over long distances ? 10

(b) Give the properties of bundeled conductors. 5

3. A power of 12,000 MW is required to be transmitted over a distance of 1000 km. At voltage levels of 400 kV, 750 kV, 1000 kV and 1200 kV, determine : 15

(i) Possible number of circuits required with equal magnitudes for sending and receiving end voltages with 30° phase difference

(ii) The currents transmitted.

(iii) The total line losses.

SECTION – B

4. What are the different types of HVDC system ? Explain them in details. 15

5. What are the different component of HVDC system ? Draw block diagram and explain them. 15

SECTION – C

6. Write short note on :

(i) Static synchronous compensator (STATCOM) 7.5

(ii) Unified power flow controller (UPFC) 7.5

7. What are the different classification of facts controller ? Explain them in detail with examples. 15

SECTION – D

8. (a) Explain about long duration and short duration voltage variations. 7.5

(b) Explain different sources of voltage sag and interruptions. 7.5

Roll No. .....

3566

B. Tech. 7th Sem. (EE) Open Elective-III Examination – February, 2022

RENEWABLE ENERGY AND DISTRIBUTED GENERATION

Paper : OEC-EE-403-G

Time : Three Hours] *[Maximum Marks : 75*

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

Note : Attempt ***five*** questions in all. Question No. **1** is ***compulsory***. Attempt ***four*** more questions from the Sections **A, B, C & D** by selecting ***one*** question from each Section. All questions carry equal marks.

1. (a) Briefly explain the differences between distributed vs. centralized power generation.

(b) List the application of solar energy.

(c) Classify different type of wind turbine rotors.

(d) Briefly state the various aspects in power quality.

(e) State how the power system is affected by distributed generation ?

(f) State the comparison between renewable and non renewable energy sources. 2.5 × 6 = 15

SECTION – A

2. Write short notes on : 15

(a) Micro-turbine

(b) Internal Combustion Engine

(c) Central Station Generation

(d) Distributed Generation

3. (a) Write down the comparison between centralized station and distributed generation. 8

(b) Explain the micro-turbine and internal combustion engine. 7

SECTION – B

4. Write short notes on : 15

(a) Wind Energy

(b) Tidal Energy

(c) Solar Energy

(d) Geothermal Energy

5. Explain the comparison between renewable and non renewable energy sources. 15

SECTION – C

6. What are the various power quality disturbances explain them ? 15

7. Explain the interface of power electronic with the grid. 15

SECTION – D

8. Explain various protection methods of distributed generators. 15

9. Briefly explain the economics of distributed generation. 15

3543

B. Tech. 7th Semester (EE) Open Elective-IV Examination – February, 2022

ELECTRONIC PRINCIPLES

Paper : OEC-ECE-451-G

Time : Three Hours] *[Maximum Marks : 75*

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

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question Number 1 is *compulsory*. All questions carry equal marks.

1. Write short notes on the following : 15

(a) Rectifier

(b) BJT

(c) LED

(d) Flip-flop

UNIT – I

2. (a) Define the V-I characteristics of P-N junction diode. 8

(b) Explain the working of P-N junction as a rectifier. 7

3. (a) Compare clipping and clamping circuits. 8

(b) Explain the Load-Line concept. 7

UNIT – II

4. (a) Describe the working of the MOSFET. 8

(b) Explain the working of the Thyristor. 7

5. (a) Compare DIAC and TRIAC in detail. 8

(b) Explain Zener Diode as a voltage regulator. 7

UNIT – III

6. Explain the various display devices in detail. 15

7. (a) Compare the working of LED and LCD. 8

(b) Design the decoder of the seven segment display device. 7

UNIT – IV

8. (a) Design various types of gates using universal gates. 8

(b) What is the difference between combinational circuits and sequential circuit. 7

9. (a) Explain the truth table of S-R and J-K flip-flop. 8

(b) Explain the number system in detail. 7

3544

B. Tech (CSE)-Open Elective-I
7th Sem. Examination – February, 2022

FUNDAMENTALS OF MANAGEMENT

Paper : HSMC-08-G

Time : Three hours] *[Maximum Marks : 75*

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

Note : Section **A** contains six short answer type questions of **2.5** marks each and is ***compulsory***. From Section **B**, attempt ***four*** more questions selecting ***one*** question from each Unit. All questions carry equal marks.

SECTION – A

1. Write short note on following : $6 \times 2.5 = 15$

(a) Scalar Chain.

(b) Define the rule of thumb according to Taylor.

(c) Face to face interview.

(d) Celebrity endorsements

(e) Equity capital

(f) Reasons for Keeping Inventories

SECTION – B

UNIT – I

2. Explain in detail the evolution of management thought. 15

3. Define the term 'recruitment'. Discuss the various method of recruitment with their advantages. 15

UNIT – II

4. Discuss the objectives, functions and scope of production management. 15

5. Define inventory control. Also discuss the techniques of inventory control. 15

UNIT – III

6. What is marketing research ? Discuss the stages in the marketing research process. 15

7. What are the relative advantages and disadvantages of various media for advertising ? Elaborate. 15

UNIT – IV

8. Define a firm's optimal capital structure. Also explain the net income approach (NI) and traditional theory of capital structure. 15

9. Discuss in detail the sources of long-term finance available for Indian Companies. 15

(b) Hazard health & risk management in power management. 8

9. (a) Write about electricity industry structure & safety regulations. 7

(b) Discuss about state & central power boards. 8

Roll No. .....

3556

B. Tech. 7th Semester (EE) Program Elective-IV Examination – February, 2022

POWER MANAGEMENT

Paper : PEC-EE-401-G

Time : Three Hours] *[Maximum Marks : 75*

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

Note : Question Number 1 is ***compulsory***. The students have to attempt ***five*** questions in all, selecting ***one*** question from each Section.

1. (a) Define Power Resources.

(b) How Environmental restraints are important in power management ?

(c) What is contracting ?

(d) What is power financing ?

(e) How management of fuel is important in power station ?

(f) Write a note on power corporation. $2.5 \times 6 = 15$

SECTION – A

2. (a) Write a note on power development in India in last few decades. 7

(b) Differentiate Pre-feasibility and feasibility studies. 8

3. (a) What is the importance of Environment restrains in power management ? 7

(b) Differentiate between resettlement and rehabilitation in power management. 8

SECTION – B

4. (a) What is organizational planning and time scheduling in power management ? 7

(b) What are various types of contracts ? 8

5. Write a note on : $7.5 \times 2 = 15$

(a) Engineering and general layout of equipments.

(b) Life cycle cost & future development in power management.

SECTION – C

6. Discuss about the power structure in different states and regulatory regime in those states. 15

7. (a) Discuss about management of fuel & water resources in power station. 7

(b) What is the importance of human resource management in power station ? 8

SECTION – D

8. Write a note on :

(a) Risks, rules & regulations in power management. 7