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S. B. Roll. No.....

UTILIZATION OF ELECTRICAL ENERGY
6th Exam/Elect/8526/May'25
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Fill in the blanks.

15x1=15

- a. The luminous flux is measured in _____
- b. Running cost of fluorescent lamp is _____ than incandescent lamp.
- c. The electrodes used in arc furnaces are of _____
- d. Induction furnaces only work upon _____ supply.
- e. TIG welding stands for _____
- f. In arc welding, heating is produced mainly by _____
- g. In electrolytic processes, the electrical energy is converted in to _____
- h. The hydrogen and metal ions carrying positive charge are known as _____
- i. Aqua ammonia is a mixture of _____ and _____
- j. Voltage regulators are used to _____ voltage.
- k. Textile industry requires _____ motor.
- l. The starting torque of DC series motor is _____
- m. During free running _____ remains constant.
- n. For regenerative braking it is necessary for supply voltage to _____
- o. Operating voltage for DC traction is _____ volt.

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. Describe the concept of induction heating.
- ii. What do you understand by galvanising?
- iii. What is the difference between plastic welding and fusion welding?
- iv. What do you mean by refrigeration?
- v. What do you mean by drive? Discuss about individual drive and group drive.
- vi. Discuss the various advantages of electric drive over mechanical drive?
- vii. What is meant by direct, indirect and semi-direct lighting?
- viii. Why are DC series motors preferred for use on electric traction?

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Discuss the concept of plugging and regenerative braking.
- b. Explain the working of various parts of vapour compression refrigeration system.
- c. Discuss about construction and working of sodium vapour lamp.
- d. Differentiate AC and DC welding on various bases.
- e. Discuss different methods of electric heating.

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ELECTRICAL POWER-II
6th Exam/Elect/5528/May'25
(For 2018 Batch Onwards)

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Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Do as directed.**15x1=15**

- a. An isolator is designed to open a circuit under which load conditions?
- b. What is the full form of HRC?
- c. The ratio of average load to the maximum load is called _____
- d. Write the full form of ELCB?
- e. Where is lightning arrester connected?
- f. What is the filler material used in HRC fuse?
- g. Define a symmetrical fault in a three phase overhead transmission line.
- h. Arc is extinguished at how much current?
- i. In VCB which gas is used?
- j. Where was first nuclear plant in India started?
- k. Running cost of which power station is the lowest?
- l. Define load curve.
- m. Which basic principle is applied in murray loop test?
- n. Write the full form of VCB.
- o. Which relay is usually employed for the protection of long transmission lines?

SECTION-B

Q2. Attempt any six questions.**6x5=30**

- i. Explain different types of faults in transmission lines.
- ii. Discuss the properties of fuse element.
- iii. What are the advantages of SF6 circuit breaker?
- iv. Define tariff? What are its objectives?
- v. What do you understand by switchgear? What are its functions?
- vi. Explain the working of a horn gap arrester with the help of a neat sketch.
- vii. What are the properties of a lightning arrester?
- viii. Explain difference between fuse and circuit breaker.
- ix. Explain the working of buchholz relay.

SECTION-C

Q3. Attempt any three questions.**3x10=30**

- a. Discuss the types of air blast circuit breakers.
- b. Explain how merz price system of protection can be applied for the protection of 3 phase alternators.
- c. Explain construction, principle and working of thermal relay with the help of neat diagram.
- d. What is earthing? What is its purpose? Explain system earthing and equipment earthing.
- e. Describe with the help of a neat diagram the construction and working of SF6 CB.
- f. Draw a neat sketch of MCB and explain its working.

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BASICS OF MANAGEMENT
6th Exam/Elect/ECE/5820/May'25
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Fill in the blanks.

15x1=15

- a. Time wage system is the oldest system of _____
- b. Purchasing is a _____ activity that goes to the simple act of buying.
- c. EPF stands for _____
- d. A Manager is someone who gets _____ through other people.
- e. The interest of work among the workers of an industry is _____ by motivating.
- f. TQM stands for _____
- g. Collaborative _____ also reduce web service cost by enabling web collaboration.
- h. In departmental line organization all the levels are divided into _____ Department.
- i. The _____ are major assets of an organization.
- j. The wage payment plans should always _____ the cost of production.
- k. Purching is a _____ activity that goes to the simple act of buying.
- l. The functional organization was suggest by _____
- m. The customer satisfaction index represents the overall _____ level of customer.
- n. CEO & COO constitute the _____ management team.
- o. Motivation is a _____ concept.

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. What is the difference between a leader and a manager?
- ii. Write some advantages of departmentalization?
- iii. What are different leadership styles?
- iv. Difference between selling and marketing.
- v. Explain various method of Advertisement.
- vi. Write short note on "COPYRIGHT".
- vii. Explain positive attitude and negative attitude with examples.
- viii. Explain Recruitment process.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Explain various types of work culture.
- b. Explain Principles of Management.
- c. Explain the concept of total quality management. Also explain the operation and benefits of TQM
- d. What do you mean by term incentives and explain it in detail.
- e. Describe briefly the importance of Healthy Work Culture in Organization?

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ELECTRICAL MACHINES-III
6th Exam/Elect/5527/May'25
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Do as directed.

15x1=15

- a. What is voltage regulation in an alternator?
- b. List one necessary condition for the parallel operation of alternators.
- c. What is the main advantage of energy-efficient motors?
- d. What happens to the power factor of a synchronous motor when its excitation is increased beyond the normal level?
- e. What is the effect on armature current if the excitation of a synchronous motor is decreased while maintaining constant load?
- f. In a synchronous motor, what is the term used to describe the phenomenon of oscillations in rotor speed due to sudden load changes?
- g. Why is a synchronous motor not self-starting?
- h. What is the main advantage of a stepper motor?
- i. What are the two main types of servo motors?
- j. Which types of losses are reduced in energy-efficient motors?
- k. How is the synchronous speed of synchronous motor calculated?
- l. Power factor of a synchronous motor is unity when armature current is _____
- m. Stability of a synchronous motor _____ with increase in excitation.
- n. In a synchronous motor, damper windings are provided on _____
- o. What is coil span factor?

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. List the necessary conditions for the parallel operation of alternators.
- ii. What is the role of a synchroscope in the synchronization of alternators?
- iii. Explain the effect of changing excitation on the power factor of a synchronous motor.
- iv. Differentiate between synchronous motor and induction motor.
- v. Describe the working principle of a linear induction motor.
- vi. What is hunting in a synchronous motor, and how can it be reduced?
- vii. What are the advantages and disadvantages of stepper motors?
- viii. What are the advantages and disadvantages of servo motors?

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Write constructional features of a synchronous machine.
- b. Explain working and construction of a stepper motor
- c. Explain the need for parallel operation of alternators.
- d. Describe excitation system in a synchronous motor.
- e. What are the various starting methods for synchronous motors?

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NON-CONVENTIONAL SOURCES OF ENERGY
6th Exam/Elect/8528/May'25
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Fill in the blanks.

15x1=15

- a. Gasification is a conversion of _____ into a producer gas.
- b. Fuel cell is a _____ cell.
- c. Solar cells are joined in _____ to form a module.
- d. In Solar air heater _____ is used as a transport medium.
- e. Biomass is converted to _____ and _____ fuels.
- f. Wind energy systems are _____ in operation.
- g. The purpose of controller is to sense _____ in windmill.
- h. Bio gas is a mixture of _____ and carbon dioxide.
- i. MHD generator has _____ maintenance.
- j. In open cycle generator _____ is used as fuel.
- k. Geothermal energy has a _____ heat inside the earth.
- l. _____ is a combination of open and close cycle.
- m. The hydro power is a clean, natural source of _____ energy.
- n. The specific gravity of the electrolyte in lead acid cell is _____.
- o. The operation of thermo electric generator is based on _____.

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. What are the advantages and disadvantages of direct energy conversion resources over other energy resources?
- ii. What are the applications of solar air heaters?
- iii. What are the advantages of small scale hydroelectric?
- iv. What are the basic components of a WECS?
- v. What are the environmental impacts of biomass?
- vi. What are the advantages of closed cycle over open cycle OTEC?
- vii. What are the applications of lead acid batteries?
- viii. What is solar cooker and explain any one?

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Explain photo voltaic system for power generation.
- b. What are the advantages and disadvantages of tidal energy?
- c. Explain briefly open cycle MHD generator.
- d. Explain power generation by biomass.
- e. What are the advantages and disadvantages of fuel cell?

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