ADAMAS UNIVERSITY
SCHOOL OF ENGINEERING AND TECHNOLOGY
END SEMESTER EXAMINATION (JULY 2020)

Name of the Program: B.Tech   **Semester:** VI
Course Name: Power System -II   **Course Code: EEE43102**
Maximum Marks: 40   **Time duration: 3 Hours**
Total No of questions: 12   **Total No of Pages: 2**

Instruction to the Candidate:
1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam.
2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page.
3. Assumptions made if any, should be stated clearly at the beginning of your answer.

GROUP –A

1. **Answer all the *five* questions of the following:**
        5 x 1 = 5

   i)   What is arc?
   ii) What is restriking voltage?
   iii) Explain how integral control can estimate static frequency drop.
   iv) What are the advantages of interconnected operation of power system?
   v)   What is then different between isolator and circuit breaker?

GROUP –B
(**Short Answer Type Questions**)
Answer *any three* of the following   **3x5 = 15**

2. What are the different types of bus explain properly. (2+3)

3. Explain Swing equation and how it is related to Power system stability? (2+3)

4. What is shunt compensator? Why it is necessary? (2+3)

5. What is Arc phenomenon and what are the factors on which arc resistance depends upon?(2+3)

GROUP –C
(Long Answer Type Questions)
Answer *any two* of the following   **2x10=20**

6. A 3-phase transmission line operating at 10 kV and having a resistance of 1Ω and reactance of $4\ \Omega$ is connected to the generating station bus-bars through 5 MVA step-up transformer having a reactance of 5%. The bus-bars are supplied by a 10 MVA alternator having 10% reactance. Calculate the short-circuit kVA fed to symmetrical fault between phases if it occurs (i) at the load end of transmission line (ii) at the high voltage terminals of the transformer.
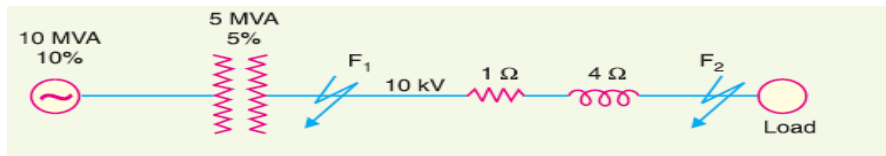
7. Explain LL fault with faults current, equivalent circuits and impedance value. What are the different types of circuit breaker? (5+5)

8. Explain induction relay and Merz- price protection for an alternator. (5+5)

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(END)

ADAMAS UNIVERSITY
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END-SEMESTER EXAMINATION: JULY 2020

Name of the Program: B. Tech   Semester: VI
Stream: EE
PAPER TITLE: Sensors and Transducers   PAPER CODE: EEE43112
Maximum Marks: 40   Time duration: 3 hours
Total No of questions: 08   Total No of Pages: 01

Instruction for the Candidate:
1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam.
2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page.
3. Assumptions made if any, should be stated clearly at the beginning of your answer.

Answer all the Groups
Group A
Answer all the questions of the following   **5 × 1 = 5**

1. **a)** What is the operating frequency range of thermocouple instruments?
    b) What is the smallest measurable input of an instrument?
    c) Which physical quantity can be measured with a thermistor?
    d) What do we measure with LVDT?
    e) Why the heater wire of a thermocouple instrument is made of thin wire?

GROUP –B
(**Short Answer Type Questions**)
Answer *any three* of the following   **3 × 5 = 15**

2. How is a differential output taken from an inductive transducer? Explain the advantage of the inductive transducers is used in push-pull configuration.   (2+3)
3. Describe the function of the piezoelectric transducer.
4. State working principle of Thermocouple. Mention name along with their temperature range and composition of two commonly used thermos-couple.   (3+2)
5. With a neat diagram explain the working principle of radiation pyrometer.

GROUP –C
(**Long Answer Type Questions**)
Answer *any two* of the following   **2 × 10 = 20**

6. Describe the basic principle of a Hall Device. Show how it can be used for a magnetic field sensor. How is the performance of a hall sensor evaluated? What are its Primary and Secondary sensitivities?   (3+2+3+2)
7. What type of radiation can be detected by the Geiger counter? Describe the working principle of the Geiger counter with a neat diagram. What are the gases in these tubes and the pressure range at which they operate?   (3+5+2)
8. Write short notes on: (i) Thermistor (ii) Photo Voltaic cell   (5+5)

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END-SEMESTER EXAMINATION: JULY 2020

Name of the Program: B. Tech   Semester: VI
Stream: EE
PAPER TITLE: Electromagnetic Field Theory   PAPER CODE: EEE43114
Maximum Marks: 40   Time duration: 3 hours
Total No of questions: 08   Total No of Pages: 01

Instruction for the Candidate:
   1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam.
   2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page.
   3. Assumptions made if any, should be stated clearly at the beginning of your answer.

Answer all the Groups
Group A
Answer all the questions of the following   **5 × 1 = 5**

1.   **a)** What is the limitation of Ampere's circuital law?
     b) What are the transmission line parameters?
     c) What is the unit of magnetic charge?
     d) What is Magnetic Susceptibility?
     e) What do you mean by motional emf?

GROUP –B
(Short Answer Type Questions)
Answer *any three* of the following   **3 × 5 = 15**

2.   State and explain Ampere's law both in integral and differential form as used in magnetic fields. [5]
3.   What is the difference between the Standing wave and the Travelling wave?   [5]
4.   (a) "Current is not a vector" Justify.   [1]
     (b) Draw and explain the equivalent circuit of a real resistor.   [4]
5.   What is the physical interpretation of the gradient of a scalar?   [5]

GROUP –C
(Long Answer Type Questions)
Answer *any two* of the following   **2 × 10 = 20**

6.   (a) What is a quarter-wave transformer?   [5]
     (b) State and explain Gauss's law both in integral and differential form as used in the electrostatic field.   [5]
7.   (a) What is the physical interpretation of the divergence of a vector?   [5]
     (b) Prove that the curl of a gradient is a null vector.   [5]
8.   (a) Derive the expression of the characteristic impedance of a lossless transmission line. Why this impedance is known as the characteristic impedance?   [5]
     (b) Prove that the normal component of the magnetic field ($\underline{\mathbf{H}}$) is discontinuous at the boundary surface.   [5]

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END-SEMESTER EXAMINATION: JULY 2020

Name of the Program: B. Tech   Semester: VI
Stream: EE
PAPER TITLE: Thermal Power Engineering   PAPER CODE: EME43110
Maximum Marks: 40   Time duration: 3 hours
Total No of questions: 08   Total No of Pages: 02

Instruction for the Candidate:
   1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam.
   2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page.
   3. Assumptions made if any, should be stated clearly at the beginning of your answer.

Answer all the Groups
Group A
Answer all the questions of the following   **5 × 1 = 5**

1.   a) Represent Modified Rankine cycle in P-V and T-S plots

     b) List the utilizations of various Boiler Accessories

     c) What is Dryness Fraction?

     d) State the expression of heat liberation per unit of furnace volume

     e) Define Brake horse power

GROUP –B
(**Short Answer Type Questions**)
Answer *any three* of the following   **3 × 5 = 15**

2.   i) Why Carnot cycle is practically impossible?
     ii) Derive Carnot cycle efficiency   [2+3]
3.   i) Differentiate between Overfeed and Underfeed stokers.
     ii) The selection of firing method adopted for a particular power plant depends upon which factors?
     [2+3]
4.   i) Explain the term Diversity factor
     ii) State the main objectives of Boiler trial   [2+3]
5.   i)What is the use of a Classifier?
     ii) Show various processes involved in coal handling with a block diagram   [2+3]

6. i) State the functions of various Boiler Accessories.
    ii) In a boiler, the following observations were made: Pressure of steam= 10bar; Steam condensed= 540kg/h; Fuels used= 65kg/h; Moisture in fuel= 2% by mass; Mass of dry flue gases= 9kg/kg of fuel; Lower calorific value of fuel= 32000kJ/kg; Temperature of the flue gases= 325ºC; Temperature of boiler house= 28ºC; Feed water temperature=50ºC; Mean specific heat of flue gases= 1kJ/kgK; Dryness fraction of steam= 0.95. Draw up a heat balance sheet for the boiler.

    [3+7]

7. i) Classify Boiler Draught.
    ii) Deduce a relation for calculation of natural draught in a boiler plant.   [3+7]

8. i) Show the line diagram of Boiler accessories and state their uses.
    ii) What are the objectives of Fuel Injection system in Diesel Powerplant?   [3+7]

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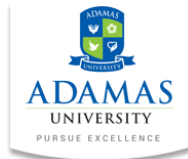
ADAMAS UNIVERSITY
School of Engineering and Technology
END-TERM EXAMINATION (July 2020)
Department of CSE/ME/ECE/EE
B. Tech
3rd Year
Semester – VI

Maximum Marks: 40   **Times:** 3 Hours
Name of Paper: Management I   **Paper Code:** MBA43144
Total No. of Questions: 14   **Total No. of Pages:** 1

Section A

Write Short Notes on the followings: **5 x 2 Marks = 10 Marks**
1. Management   2. Directing   3. Efficiency
4. Forecasting   5. Six Sigma

Section B
Answer any Five   5 x 4 Marks = 20 Marks

6. What do you mean by Planning? Discuss in brief different types of plans.
7. Explain the concept of Management by Objectives (MBO).
8. What do you mean by Control? Discuss in brief the control process.
9. Explain the concept of Total Quality Management.
10. What do you mean by Material Management? Discuss in brief the objectives of Material Management.
11. Discuss in brief the motivation theory of X and Y.
12. From the below information calculate Re-Order Level, Minimum Level and Minimum Level:

	A	B
Maximum Consumption per week (in units)	250	250
Average Consumption per week (in Units)	175	175
Minimum Consumption per week (in units)	100	100
Re-order period in weeks	8 to 12	4 to 8
Re-order qty (in units)	300	500

Section C
Answer any One   1 x 10 Marks = 10 marks

13. What do you mean by Scientific Management? Discuss the principles of Scientific Management. Also discuss in brief the different experiments conducted by the initial authors in this school of thoughts.

14. Describe the concept of Industrial Management. Also discuss the importance and problems of Industrial Management.