AR13

CODE: 13OE4009 **SET1**

ADIYYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, October-2017

TOTAL QUALITY MANAGEMENT
(Open Elective)

Time: 3 Hours **Max Marks: 70**

PART A

ANSWER ALL QUESTIONS **[1×10=10M]**

1. a) Define Quality
   b) List any two dimensions of manufacturing quality
   c) What is customer satisfaction?
   d) What is PDSA cycle?
   e) Suggest the type of control chart for controlling the number of defects in a piece of cloth.
   f) What is the principle of BPR
   g) What is the Role of voice of customer in TQM
   h) Define Process FMEA
   i) What is the need of ISO 9000 quality system?
   j) Mention any two benefits of Quality Auditing

PART – B

Answer One Question from each unit **[5×12=60M]**

UNIT I

2 a) Explain the basic concepts of TQM 6M
b) What are the dimensions of Quality? Discuss in brief 6M

(OR)

3 a) Explain the contribution of juran to the quality movement 6M
b) What are the barriers to TQM implementation? How are they overcome 6M

UNIT II

4. a)What are the ways by which an organization, make use of customer feedback 6M
   b) Discuss the continuous process improvement cycle with an illustration 6M

(OR)

5. a) What are the areas of focus of Kaizen 6M
   b) Discuss about the supplier Partnership procedures 6M

UNIT III

6. Data for defective items from 20 samples (sample size = 100) are shown in the table below:

Sample No.	No. of Defectives	Sample No.	No. of Defectives
1	4	11	6
2	3	12	5
3	3	13	4
4	5	14	5
5	6	15	4
6	5	16	7
7	2	17	6
8	3	18	8
9	5	19	6
10	6	20	8

Identify the samples which are not under control and also recommend limits for future reference. 12M

(OR)

7. a) Define Reliability and discuss the reliability of system when the individual components are in series and parallel with suitable example. 6M

b) Explain briefly the benefits and limitations of BPR 6M

UNIT IV

8. a) Discuss the importance of Voice of customer in QFD 6M

b) How is the cause and effect diagram? Explain with an example. 6M

(OR)

9. a) Explain the stages of FMEA 6M

b) What are the major steps in Bench Marking? 6M

UNIT V

10 a) Explain the classification of ISO 9000 quality system standards 6M

b) Discuss the documentation pyramid in a quality system 6M

(OR)

11 a) What are the benefits of ISO quality system 6M

b) Explain about the auditing process in ISO system 6M

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CODE: 13OE4007 **SET-2**

ADITYA INSTITUE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
IV B.Tech I Semester Regular & Supplementary Examinations, October-2017

RENEWABLE ENERGY
(Electrical & Electronics Engineering)

Time: 3 Hours **Max Marks: 70M**

PART A

Answer all Questions **[1 x 10 = 10M]**

1. (a) What is the significance of Fill Factor?
   (b) List out the applications of solar heating and cooking techniques.
   (c) What is Photo Voltaic Effect?
   (d) List out the different classification of solar energy collectors
   (e) What are types of Bio-gas digesters?
   (f) How the wind mills are classified?
   (g) Discuss the disadvantages of geothermal plant.
   (h) What are the special problems in construction of barriers for tidal scheme?
   (i) What is joul Thomson effect?
   (j) What is the principle of MHD Generator?

PART B

Answer one Question from each unit **[5 x 12 = 60M]**

UNIT-I

2. (a) Explain briefly the Environmental impact of solar power. [6M]
   (b) Explain briefly the construction and working of Pyrheliometer. [6M]

(OR)

3. (a). State the empirical expression for beam and diffusion radiation and explain in brief. [7M]
   (b) What is meant by solar radiation data? Explain the information contained in it [5M]

UNIT-II

4. (a) With the help of a neat sketch describe a solar heating system using water heating solar collectors. [7M]
   (b) What are the advantages and disadvantages of this method? [5M]

(OR)

5. (a). Explain the principle of solar photovoltaic power generation? [6M]
   (b). Explain the construction and working of solar pond with help of neat diagram. [6M]

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UNIT-III

6. (a) Derive an expression for Betz criterion and explain it. [6M]
   (b) Explain the operation of IC engine with biogas and discuss their performance characteristics [6M]

(OR)

7. (a) Explain about various types of wind machines [8M]
   (b) Explain the basic principle of wind generation conversion. [4M]

UNIT-IV

8. (a) Explain the working of geo thermal preheat hybrid system with help of neat sketch [6M]
   (b) Write a short note on classifications of geo thermal sources [6M]

(OR)

9. (a) Explain closed (Anderson) Cycle OTEC with neat sketch. [6M]
   (b) Write a short note about different types of turbines used in micro hydel plant [6M]

UNIT-V

10. (a) Explain the working of a Thermoelectric Generator. [6M]
    (b) Explain the advantages and disadvantages of DEC [6M]

(OR)

11. (a) Explain the working of a Seebeck and Joul Thomson Effect of Thermo Couple. [8M]
    (b) What is the need of DEC and list the limitations of DEC. [4M]

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CODE: 13OE4001 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, October-2017

AIR QUALITY MANAGEMENT

(Open Elective)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) What is point source and area source? Give one example for each.
   b) Name the chemical responsible for ozone layer depletion?
   c) Define aerosol.
   d) Which gaseous pollutant is responsible for the corrosion and discoloration of Taj Mahal?
   e) Suggest suitable pollution control equipment for Thermal Power Stations.
   f) Which is the predominant force responsible for the removal of particles in Cyclones?
   g) Mention any two major advantages of scrubbers.
   h) Write any two wet methods of removal of sulphur dioxide.
   i) Write the advantages of gravitational settling chamber?
   j) What are the effects of heat island?

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. a) Explain the following giving suitable examples. 6 M
   i) Primary and Secondary pollutants ii) Organic and inorganic pollutants iii) Stationary and Mobile sources
   b) Explain various types of aerosols (particulates). 6 M

(OR)

3. a) Write short notes on any three air pollution episodes. 6 M
   b) Identify various pollution sources of the following air contaminants. 6 M
   i) Sulphur Dioxide ii) Carbon monoxide iii) Hydrocarbons
   iv) Oxides of Nitrogen v) Hydrogen sulphide and
   vi) Hydrogen fluoride

UNIT-II

4. a) Explain the effects of air pollution on vegetation. 6 M

   b) Discuss the causes, effects and control measures of Greenhouse effect and Acid rains. 6 M

(OR)

5. a) Explain the effects of the following air pollutants on human health: SO_2, CO, Suspended Particulate Matter and Oxides of Nitrogen — 6 M

   b) Explain the mechanisms by which air pollutants cause damage to the materials and mention the effects of air pollutants on the following materials :
   Building materials, Metals and alloys, Paper and Leather — 6 M

UNIT-III

6. a) Explain with neat sketches and two types of scrubbers. — 6 M

   b) Draw a neat diagram of a typical Electrostatic Precipitator. Discuss various stages in the collection of particles by Electrostatic Precipitator. — 6 M

(OR)

7. a) Explain with a neat sketch the principle and construction of fabric filters. — 6 M

   b) Calculate the minimum size of the particle that will be removed with 100% efficiency from a settling chamber of size 7.5 m x 3.5 m x 1.5 m, designed for a flow rate of 8 m^3/s at 77^0C. Viscosity of air at $77^0C = 2.1 \times 10^{-5}$ kg/m.sec and particle specific gravity = 2.5 — 6 M

UNIT-IV

8. a) Explain the following methods for the control of SO_2 emission. — 6 M
      i) Using alternate fuels ii) Process modification
      iii) Desulfurization

   b) Explain any two dry methods of removal of sulphur dioxide. — 6 M

(OR)

9. a) Explain various absorption and adsorption techniques for the removal of NO_2. — 6 M

   b) With a neat diagram and explain the process for the removal of NO_2 — 6 M

UNIT-V

10. a) Define plume behaviour and explain the plume behaviour diagrams with related to lapse rate. — 8 M

    b) Write short note on stack height and derive the expression for effective height with neat sketch. — 4 M

(OR)

11. a) Draw a typical High Volume Air sampler for monitoring SPM and Gaseous pollutant in ambient atmosphere. Explain sampling procedure for SPM and Gaseous pollutants using High Volume Air Sampler. — 8 M

    b) Write the stack gas emission standards for thermal power plants and Ambient air quality standards for India — 4M

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CODE: 13OE4002 **SET-1**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

IV B.Tech I Semester Regular & Supplementary Examinations, October-2017

CYBER LAWS
(OPEN ELECTIVE)

Time: 3 Hours **Max Marks: 70**

PART-A

ANSWER ALL QUESTIONS **[1 x 10 = 10 M]**

1. a) What is FIR?
   b) Which acts are amended after the introduction of IT act?
   c) What is DOS attack?
   d) What is Cyber stalking?
   e) What is the impact of Business income or Royalty on taxation?
   f) Does PE principle is relevant to the e-modes of doing business in India?
   g) What is digital evidence?
   h) List the categories of e-Governance initiatives implemented by the Union and State Governments in the last 10 to 15 years,
   i) List the 3 tiers in redressal mechanism in Indian consumer protection act?
   j) Define Goods and Services

PART-B

Answer one question from each unit **[5x12=60M]**

UNIT-I

2. Describe Some of the Cyber Crimes in this Millennium with Examples. **12**

(OR)

3. a What are the objectives of IT legislation in India. **6**
   b What are the notable features in the IT act amendment 2008**.** **6**

UNIT-II

4. What are the functions of Controller of Certifying Authorities for the purposes of IT act? **12**

(OR)

5. a Explain the impact of VIRUS on Internet. **6**
   b Define the term "Hacking" and explain its importance. **6**

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UNIT-III

6.		Explain the concept of Taxation policies in India and their impact on e-commerce	**12**
		(OR)	
7.	a	Explain the concept of PE.	**6**
	b	What is the impact of PE concept on taxing e-commerce in India	**6**

UNIT-IV

8.		What is Digital signature? Explain its implementation	**12**
		(OR)	
9.		Explain any one e-governance project in detail	**12**

UNIT-V

10.	a	Briefly explain restrictive trade practices.	**6**
	b	Briefly explain the objectives of Consumer protection act	**6**
		(OR)	
11.		Explain how Consumer protection act addresses the needs of cyber consumers.	**12**

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