

AR13

CODE: 13OE4001

SET-1

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

IV B.Tech I Semester Regular & Supplementary Examinations, November, 2018

AIR QUALITY MANAGEMENT

(Open Elective)

(Civil Engineering)

Time: 3 Hours

Max Marks: 70

PART-A

ANSWER ALL QUESTIONS

[1 x 10 = 10 M]

1. a) Name four air pollutant with their sources.
b) Explain various sources of air pollution.
c) What is acid rain?
d) Explain Global warming.
e) Name the global effects of air pollution
f) What is a thermal inversion?
g) What gas filters out UV radiation?
h) What is “sick building syndrome”?
i) How can you prevent or control indoor pollutants?
j) What is a VOC?

PART-B

Answer one question from each unit

[5 x 12=60M]

UNIT-I

2. a Explain air pollution due to automobiles. [6 M]
b Briefly explain primary and secondary air pollutants with example [6 M]
- (OR)**
3. a Explain briefly on air pollution episodes of London smog and Bhopal gas tragedy [6 M]
b Define air pollution and discuss the different sources of air pollutants in detail. [6 M]

UNIT-II

4. a Write briefly the effect of air pollution on monuments in India [6 M]
b Explain the effects of air pollution on materials and plants. What is Photochemical smog? How it forms? [6 M]
- (OR)**
5. a Explain green effect with respect to 1) Principle 2) Green House Gases 3) Sources. [6M]
b What is Photochemical smog? How it forms? Explain Discuss the adverse effects of carbon monoxide on human health. How can the reduction in carbon monoxide emission help mitigate these effects [6 M]

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UNIT-III

6. a Draw a neat diagram of wet scrubber & explain its working. [6 M]
b Write a note on scrubbers. [6 M]

(OR)

7. a With a sketch, explain the principle and operation of an electrostatic precipitator. [6 M]
b Write a note on the following: [6 M]
a) Cyclone separators
b) Bag house filters

UNIT-IV

8. a a) Explain the control of NO_x emission removal from stack [6 M]
b b) In brief, write the various methods available to control gaseous pollutants. [6 M]

(OR)

9. a With a neat sketch explain the working of a Fabric filter in removing Air Pollutants. [6 M]
b Explain the sources and characteristics of the following air pollutants? [6 M]
i) Carbon monoxide ii) Sulphur dioxide

UNIT-V

10. a Write a note on Atmospheric stability and temperature inversions. [6 M]
b What is a wind rose diagram? Explain with a neat sketch. [6 M]

(OR)

11. a Sketch and explain different kinds of plumes depending upon different environmental conditions. [6 M]
b List the meteorological parameters that influence the dispersion of pollutants in atmosphere. [6M]

**RENEWABLE ENERGY
(Electrical & Electronics Engineering)****Time: 3 Hours****Max Marks: 70****PART-A****ANSWER ALL QUESTIONS****[1 x 10 = 10 M]**

1. a) Define extra-terrestrial solar radiation.
b) What is the difference between a pyrheliometer and a pyranometer?
c) Define concentration ratio of a solar concentrating collector.
d) What are the main applications of solar pond?
e) What is Betz's criterion?
f) What is meant by anaerobic digestion of biomass?
g) Define tidal range.
h) What is geothermal energy?
i) What is Seebeck's thermo electric effect?
j) How MHD systems are classified?

PART-B**Answer one question from each unit****[5x12=60M]****UNIT-I**

2. a) Explain the principle of operation of Pyrheliometer with suitable diagram. 6 M
b) Discuss how energy is produced in the Sun with suitable equations and write about different layers of Sun with suitable diagram. 6 M
- (OR)**
3. a) What are the reasons for variation in solar radiation reaching the Earth than received at outside of atmosphere? 4M
b) Define the following terms 8 M
(i) Declination angle (ii) Zenith angle
(iii) Angle of incidence (iv) Latitude angle.

UNIT-II

4. a) Enumerate the different types of concentrating collectors. 6 M
Explain about any two of them in brief.
- b) What are the main components of a flat plate collector? 6 M
Explain the function of each one.
- (OR)**
5. a) What are the advantages and disadvantages of concentrating collectors over flat plate collectors? 6 M
- b) Describe a non-convective solar pond for solar energy collection and storage. 6 M

UNIT-III

6. a) How wind energy conversion systems are classified? Discuss in brief. 8 M
- b) Discuss advantages and disadvantages of wind energy conversion systems. 4 M
- (OR)**
7. a) Explain the operation of a biogas digester with a suitable diagram. 6 M
- b) How biogas plants are classified? Explain them briefly. 6 M

UNIT-IV

8. a) With a neat sketch explain a liquid dominated high temperature system in a Geothermal plant. 6 M
- b) Describe closed cycle OTEC system with its advantages. 6 M
- (OR)**
9. a) Sketch the schematic and explain the double pool tidal system. 6 M
- b) What is wave energy? Explain the working principle of a wave energy conversion system. 6 M

UNIT-V

10. a) Describe the principle of MHD generation. How MHD systems are classified? Explain them in brief. 6 M
- b) Discuss about a fuel cell briefly, how it works, explain it with suitable diagram. 6 M
- (OR)**
11. a) Write a short note on thermo electric power generation 6 M
- b) Explain Carnot cycle with suitable diagram; write the limitations of Carnot cycle. 6 M

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SET2

**ADIYYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

IV B.Tech I Semester Regular & Supplementary Examinations, November, 2018

TOTAL QUALITY MANAGEMENT (Open Elective)

Time: 3 Hours

Max Marks: 70

PART A

ANSWER ALL QUESTIONS

[1×10=10M]

1. a) Define service quality
b) Define quality as per Crosby
c) Distinguish between internal customer and External customer
d) List any two methods rating the suppliers
e) Define Process capability
f) List out the different stages of Product Life cycle
g) Define QFD
h) List any two major types of FMEA
i) What is the need of ISO 14000 quality system?
j) Draw the documentation pyramid.

PART – B

Answer One Question from each unit

[5×12=60M]

UNIT I

- | | | |
|---|--|----|
| 2 | a) Discuss the stages of evaluation of quality | 6M |
| | b) Explain about Deming's philosophy | 6M |

OR

- | | | |
|----|---|----|
| 3. | a) Discuss the Framework of TQM | 6M |
| | b) Explain the contribution of Crosby to the quality movement | 6M |

UNIT II

- | | | |
|----|---|----|
| 4. | a) Describe the importance of customer retention in an organization | 6M |
| | b) Discuss Maslow's Hierarchy theory of motivation | 6M |

OR

- | | | |
|----|--|-------------|
| 5. | Explain the following | (3× 4M=12M) |
| | a) Juran Trilogy b) PDSA Cycle c) Kaizen | |

UNIT III

6. Data for defects on TV set from 20 samples are shown in the table below:

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

Recommend control limits for future reference.

12M

OR

7. a) Discuss the six sigma concept of process capability

6M

b) Discuss the relevance of Total Productive Maintenance to TQM

6M

UNIT IV

8. a) Discuss the benefits of QFD

6M

b) Explain about the new seven tools of quality and its applications in detail

6M

OR

9. a) Explain each section of the basic structure of 'House of Quality'

6M

b) List the benefits of FMEA

6M

UNIT V

10. a) Explain about the philosophy and the requirements of ISO 9000:2000

6M

b) Discuss about the documentation process in ISO 9000:2000

6M

OR

11. a) Describe how a two party audit system works

6M

b) Explain the concept of ISO 14000

6M

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SET-2

**ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)**

IV B.Tech I Semester Regular & Supplementary Examinations, November, 2018

CYBER LAWS

(Open Elective)

Time: 3 Hours

Max Marks: 70

PART-A

ANSWER ALL QUESTIONS

[1 x 10 = 10 M]

1. a) Which acts are amended after the introduction of IT act?
b) What is warrant?
c) List out any 4 crimes of Internet.
d) What is spoofing attack?
e) Does a web-site itself constitutes a PE?
f) What is the impact of Business income or Royalty on taxation?
g) What is the purpose of digital signature?
h) Define Certifying Authority.
i) Who can file complaint as per Consumer protection act?
j) Define Goods and Services

PART-B

Answer one question from each unit

[5x12=60M]

UNIT-I

2. Discuss the broader areas of omissions and commissions in the IT Act and general criticism faced **12**

(OR)

3. Explain the statement “Arrest but No Punishment”. **12**

UNIT-II

4. What are the procedural directions given by Supreme Court of India for Initiating telephone tapping? **12**

(OR)

5. List computer crimes as per IT act and penalties prescribed by IT act for these offences **12**

UNIT-III

6. Describe the advantages and disadvantages of e-commerce **12**

(OR)

7. Explain the impact of the e-commerce on Customs duties **12**

UNIT-IV

8. Explain about E-Governance under Indian perspective. **12**

(OR)

9. What is digital signature? Describe and explain steps in creating digital signature **12**

UNIT-V

10. a Briefly explain unfair trade practices. **6**
b Briefly explain the consumer rights under the consumer protection act **6**

(OR)

11. Explain the statement “Are cyber consumers covered under the consumer protection”. **12**