

- Q.26 Write down about different types of electrodes used for pH measurement.

Q.27 Write the various applications & advantages of electrochemical cells.

Q.28 Write down about the oven used in chromatography.

Q.29 Write applications of NMR spectroscopy.

Q.30 Write down the advantages and disadvantages of gas chromatography.

Q.31 Write down the principle of pH measurement in brief.

Q.32 How water pollution monitoring is done?

Q.33 How Arduino can be used for monitoring the quality of water pollution.

Q.34 Write a short note on analytical Instruments.

Q.35 Discuss air pollution monitoring Instruments.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain noise pollution and its monitoring in detail.

Q.37 Define chromatography. Classify it and explain gas chromatography in detail.

Q.38 What do you mean by spectroscopic analysis? Explain mass spectroscopy in detail.

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5th Sem / IC, EI
Subject:- Analytical and Environmental Instruments

Time : 3Hrs. M.M. : 100

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SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 A pH value less than 7.0 means that the solution is _____.

a) Conductive b) Acidic
c) Alkaline d) Neutral

Q.2 Unit of Sound:

a) Decibel b) Omega
c) Joule d) Watt

Q.3 Conductivity is defined as the ability to carry _____.
a) Voltage b) Resistance
c) Current d) All of the above

Q.4 The reciprocal of conductivity is _____.
a) Viscosity b) Resistivity
c) Turbidity d) None of these

Q.5 The range of pH is _____.
a) 0-14 b) 0-20
c) 7-14 d) 0-7

Q.6 PH of neutral salt.

- a) 7
- b) <7
- c) >7
- d) 0

Q.7 Mass spectrometers are used to determine which of the following?

- a) Composition PH sample
- b) The concentration of elements in sample
- c) Relative Mass of atoms
- d) Properties of sample

Q.8 LED is a display device.

- a) True
- b) False
- c) A & B
- d) None of the above

Q.9 Which of the following is the most sensitive method of the spectral methods?

- a) Absorption Spectroscopy
- b) Mass Spectroscopy
- c) Flame emission spectroscopy
- d) Atomic emission spectroscopy

Q.10 Which of the following gases is suitable for use as a gas chromatography carrier gas?

- a) Nitrogen
- b) Helium
- c) Oxygen
- d) All of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Name the electrodes used for pH measurement.

Q.12 List two sources of water pollution.

Q.13 Name two percentage gases

Q.14 Define LED

Q.15 Define Amplifier

Q.16 Write in brief about conductivity

Q.17 AEI is used for _____

Q.18 Define Spectroscope

Q.19 Expand pH.

Q.20 Define Pollution.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Write down thermal conductivity analysis.

Q.22 Discuss the role of the oven used in chromatography instruments.

Q.23 Write down the types of electrodes used in electrochemical instruments.

Q.24 Write about absorption spectroscopy.

Q.25 Write about the conductivity meter.