

NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch : BE / Civil	Year / Semester :IV / VII	Format No.	NAC/TLP-07a.13
Subject Code :OML751	Subject Name :Testing of Materials	Rev. No.	02
Unit No : IV	Unit Name : MATERIAL CHARACTERIZATION TESTING	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BT L
1	Which of the following microscope are not used for microscopy? a) Optical b) Ultrasonic c) Electron d) Scanning probe	L1
2	The resolving power of TEM is derived from _____ a) electrons b) specimens c) power d) ocular system	L2
3	Which of the following component of TEM focuses the beam of electrons on the sample? a) ocular lens b) condenser lens c) stage d) column	L2
4	Image formation in electron microscope is based on _____ a) column length b) electron number c) differential scattering d) specimen size	L1
5	In SEM, the image is formed by the electrons that _____ a) reflect back b) ionize c) undergo inversion d) pass through	L2
6	Which of the following is used in electron microscope? a) electron beams b) magnetic fields c) light waves d) electron beams and magnetic fields	L1
7	Which among the following helps us in getting a three-dimensional picture of the specimen? a) Transmission Electron Microscope b) Scanning Electron Microscope c) Compound Microscope d) Simple Microscope	L2
8	Where do we obtain the magnified image of the specimen in SEM? a) cathode ray tube b) phosphorescent screen c) anode d) scanning generator	L2
9	X-ray diffractometers provide _____information about the compounds present in a solid sample. a) Quantitative b) Qualitative c) Quantitative and qualitative d) Either quantitative or qualitative	L3

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10	Etching of specimen is done to achieve _____ a) Visible grain boundary b) Invisible grain boundary c) Toughness d) Hardness	L2
11	Which of the following technique is used to measure the number of conjugated double bonds and aromatic conjugation within the various molecules? a) Fourier transform infrared b) Differential scanning calorimetry c) U/V Visible spectroscopy d) Thermo gravimetric analysis	L1
12	Fourier transform infrared spectroscopy is used to study _____ a) Quantitative determination of additives in polymers b) Curing and degradation behaviour of cross-linked polymers c) Determination of volatilities of plasticizers d) Analysis of structural imperfections on the surface	L2
13	Atomic force microscopy comes under the category of _____ a) Spectral analysis b) Thermal analysis c) Mechanical testing d) Morphological analysis	L1
14	If the absorption of electromagnetic radiation by matter results in the emission of radiation of the same or longer wavelengths for a short time, the phenomenon is termed as which of the following? a) Luminescence b) Fluorescence c) Phosphorescence d) Spontaneous emission	L3
15	Prompt emission of X-ray by an atom ionised by a higher energy X-ray is a type of which of the following phenomena? a) Luminescence b) Fluorescence c) Phosphorescence d) Spontaneous emission	L2
16	The measurement of intensity of fluorescent X-rays provide a simple and _____ way of _____ analysis. a) Destructive, quantitative b) Non-destructive, quantitative c) Destructive, qualitative d) Non-destructive, qualitative	L3
17	The problem of spectral interference is not severe in X-ray spectroscopy. a) True b) False	L2
18	In X-ray fluorescence spectrometer, the relationship between the excitation intensity and the intensity of fluorescence does not depend on which of the following? a) Spectrum of the incident radiation b) Angle of radiance c) Molecular weight d) Incident angle	L2

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19	Fluorescent X-ray spectrometers would require only moderate-intensity X-ray tubes. a) True b) False	L1
20	Sample recovery is possible after spectroscopic analysis because the sample is not chemically affected. a) True b) False	L1
21	Bragg's law is not a sufficient condition for diffraction by crystalline solids. a) True b) False	L2
22	The transition zone for Raman spectra is _____ a) Between vibrational and rotational levels b) Between electronic levels c) Between magnetic levels of nuclei d) Between magnetic levels of unpaired electrons.	L2
23	Which of the following is an application of molecular spectroscopy? a) Structural investigation b) Basis of understanding of colors c) Study of energetically excited reaction products d) All of the mentioned	L2
24	The region of electromagnetic spectrum for nuclear magnetic resonance is _____ a) Microwave b) Radio frequency c) Infrared d) UV-rays	L2
25	X-ray diffraction patterns are used for studying crystal structure of solids because a) They have very high energy, hence they can penetrate through solids b) They are electromagnetic radiation, and hence do not interact with matter (crystals) c) Their wavelengths are comparable to inter-atomic distances d) Their high frequency enables rapid analysis	L2
26	The secondary electrons radiated back in scanning microscope is collected by? a) specimen b) anode c) vacuum chamber d) cathode	L1
27	Electron Microscope can give a magnification up to _____ a) 400,000X b) 100,000X c) 15000X d) 100X	L1