

**NADAR SARSWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.**

<b>Course/Branch</b> : BE/ Civil	<b>Year / Semester</b> :IV / VII	Format No.	NAC/TLP-07a.13
<b>Subject Code</b> :OML751	<b>Subject Name</b> :Testing of Materials	Rev. No.	02
<b>Unit No</b> : V	<b>Unit Name</b> : Other Testing	Date	30.09.2020

**OBJECTIVE TYPE QUESTION BANK**

<b>S. No.</b>	<b>Objective Questions (MCQ /True or False / Fill up with Choices )</b>	<b>BTL</b>
1.	Which of the following is useful for determination of volatilities of plasticizers and other additives? <b>a) Thermo gravimetric analysis</b> b) Differential scanning calorimetry c) Scanning electron microscopy d) Atomic force microscopy	L1
2.	Differential scanning calorimetry is useful for determining the _____ <b>a) Melting temperature, glass transition temperature, heat of fusion etc</b> b) Volatilities of plasticizers and other additives c) Quantitative determination of additives in polymers d) Structural imperfections	L1
3.	Differential scanning calorimetry comes under the category of _____ a) Spectral analysis b) Morphological analysis <b>c) Thermal analysis</b> d) Geological analysis	L1
4.	Which of the following is used as a criterion in quality control? a) X-ray diffraction <b>b) Mechanical testing</b> c) Wetting properties d) Spectral analysis	L2
5.	The study of fracture surfaces of polymeric material is done using _____ a) Atomic force microscopy b) X-ray diffraction c) Thermo gravimetric analysis <b>d) Scanning electron microscopy</b>	L1
6.	A hydrophobic surface with low free surface energy gives a _____ with water. a) Low contact angle <b>b) High contact angle</b> c) Zero contact angle d) Extremely low contact angle	L2
7.	An index of crystallinity can be obtained from the ratio of the integrated intensity of the crystalline peaks to the total area under the XRD curve. <b>a) True</b> b) False	L2
8.	Which of the following option is appropriate for the TGA and DTA? a) TGA and DTA measures only weight <b>b) TGA measures only weight while DTA measures other effects</b> c) TGA and DTA measures only temperature d) TGA measures only temperature while DTA measures other effects	L2
9.	In the schematic DTA sequence having reversible and irreversible changes, starting with the hydrated material, which of the following steps occurs first on heating? a) Esterification b) Methylation c) Rehydration <b>d) Dehydration</b>	L2

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10.	On studying the reversible process during DTA which of the following is observed on both heating and cooling? a) Esterification <b>b) Hysteresis</b> c) Methylation d) Carboxylation	L2
11.	Which one of the following options is not true for hysteresis? a) It depends on the nature of the material b) It depends on the structural change involved <b>c) It doesn't depend on the experimental conditions</b> d) It doesn't depend on the concentration of the electrode	L1
12.	In the application of DTA and DSC which of the following parameters is measured for the glasses? a) Concentration of the glass b) Solubility of the glass c) Cooling temperature <b>d) Transition temperature</b>	L2
13.	DTA can be used for which of the following process? a) Line positions of the crystals b) Mechanical properties of the crystals <b>c) Phase diagrams</b> d) Catalytic properties of enzymes	L1
14.	A rapid TGA method is used for which of the following process? a) Decomposition of polymers exothermally b) Decomposition of enzymes exothermally c) Decomposition of crystals endothermally <b>d) Decomposition of reactions isothermally</b>	L1
15.	Which of the following parameters can be used, using the DSC and DTA cells? a) Catalytic properties of enzyme b) Elasticity of crystals <b>c) Enthalpy of substances</b> d) Line positions of phases	L2
16.	If the absorption of electromagnetic radiation by matter results in the emission of radiation of the same or longer wavelengths for a long or a short time, the phenomenon is termed as which of the following? <b>a) Luminescence</b> b) Fluorescence c) Phosphorescence d) Spontaneous emission	L2
17.	Which of the following is the most accurate method of determination of elemental composition? a) Spectroscopy <b>b) Isotope dilution</b> c) Isobar dilution d) Chromatography	L2

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18.	If the absorption of electromagnetic radiation by matter results in the emission of radiation of the same or longer wavelengths for a long time, the phenomenon is termed as which of the following? a) Luminescence b) Fluorescence <b>c) Phosphorescence</b> d) Spontaneous emission	<b>L1</b>
19.	The intensifying action of lead screens is caused by: (a) Secondary X ray emission (b) Secondary gamma ray emissions (c) Fluorescence of lead screens <b>(d) Electron emission</b>	<b>L1</b>
20.	The energy of the emitted X-rays depends upon the _____ of the atom and their intensity depends upon the _____ a) Atomic number, amount of sample b) Mass number, amount of sample c) Mass number, concentration of atoms <b>d) Atomic number, concentration of atoms</b>	<b>L2</b>
21.	ICP's principle is similar to which of the following? a) Flame emission spectroscopy b) Fourier transforms spectroscopy <b>c) Atomic emission spectroscopy</b> d) Absorption spectroscopy	<b>L2</b>
22.	ICP is used to analyse samples in which of the following states? a) Solids b) Liquids c) Gases <b>d) Solids and liquids</b>	<b>L2</b>
23.	Solid samples are introduced into the ICP spectrometer using which of the following? a) Nebulizer b) Curvette having glass windows c) Probe <b>d) Laser ablation system</b>	<b>L2</b>
24.	Liquid samples are introduced into the ICP spectrometer using which of the following? <b>a) Nebulizer</b> b) Curvette having glass windows c) Probe d) Laser ablation system	<b>L2</b>
25.	Atomisation or ionisation occurs at which of the following conditions? a) Vacuum pressure b) Atmospheric pressure c) Low pressure <b>d) High pressure</b>	<b>L1</b>

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26.	Ions flow is pumped into the vacuum system using which of the following? <b>a) Orifice</b> b) Nozzle c) Venturi meter d) Dall tube	<b>L2</b>
27.	Which of the following is not the characteristic of ICP spectrometer? a) Easy sample introduction b) It can trace multiple elements <b>c) High detection limits</b> d) Accurate	<b>L1</b>
28.	ICP spectrometer is a sequential multi-element analyser that has scan times less than ____ for one sweep. a) 10ms <b>b) 20ms</b> c) 50ms d) 100ms	<b>L1</b>
29.	Double focussing section analysers offer better resolution than ICP spectrometry system. <b>a) True</b> b) False	<b>L2</b>
30.	The most common type of ion detector found in ICP system is which of the following? a) Faraday cup collector <b>b) Channeltron</b> c) Micro-channel plate d) Flame ionization detector	<b>L2</b>

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