Program: FE (All branches)

Curriculum Scheme: Revised 2016

Examination: First Year Semester I

Course Code: FEC103 **Course Name: Applied Chemistry**
Time: 1-hour **Max. Marks: 50**

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Note to the students: - All the Questions are compulsory and carry equal marks .

Q1.	_____ is caused by presence of dissolved bicarbonates of calcium, magnesium and other heavy metals and the carbonates of iron.
Option A:	**Temporary hardness**
Option B:	Composite
Option C:	Pure hardness
Option D:	Permanent
Q2.	Indicator used in EDTA method is
Option A:	diphenyl amine
Option B:	Phenolphthalein
Option C:	**EBT**
Option D:	methyl orange
Q3.	A sample of water on analysis gave the following results: $CaCO_3$= 10mg/ lit, MgSO4= 4 mg/lit, $CaSO_4$= 21 mg/lit, $MgCl_2$= 1 mg/lit, Fe_2O_3= 0.04 mg/lit, SiO_2= 1 mg/lit. Calculate the temporary hardness.
Option A:	**10 ppm**
Option B:	20 ppm
Option C:	100 ppm
Option D:	0.1 ppm
Q4.	Advantages of ion exchange process is it produces water of very low harness like _____ppm
Option A:	**2 ppm**
Option B:	20 ppm
Option C:	0.2 ppm
Option D:	0.02 ppm
Q5.	The process of destroy of the pathogenic bacteria, microorganism etc. from the water and making it safe for used is known as _____
Option A:	**Disinfection**
Option B:	Sterilization
Option C:	Ozonolysis
Option D:	Boiling

Q6.	The process of removing of common salt (NaCl) from sea water (Brackish water)is known as____
Option A:	**Desalination**
Option B:	Ultrafiltration
Option C:	Osmosis
Option D:	Reverse Osmosis
Q7.	If a hydrostatic pressure in excess of osmotic pressure is applied on higher concentration solution side, solvents starts moving from higher concentration to the lower concentration side compartment through semipermeable membrane, this is the principle of_____
Option A:	**Reverse Osmosis**
Option B:	Osmosis
Option C:	Desalination
Option D:	Ultrafiltration
Q8.	To determine BOD incubation period is for ___days at _____^{o}C
Option A:	**5, 20**
Option B:	10,25
Option C:	15,20
Option D:	5,25
Q9.	Thermosetting (TS) contains _____dimensional array of network
Option A:	**Three**
Option B:	four
Option C:	Linear
Option D:	Homolinear
Q10.	Important function of plasticizer is to improve _____ & _____so as to reduce temperature & pressure required for molding.
Option A:	**Plasticity, flexibility**
Option B:	Hardness, Strength
Option C:	Plasticity, brittleness
Option D:	Plasticity, Strength
Q11.	The temperature at which polymer becomes soft and rubbery is the _____ temperature
Option A:	**Glass transition**
Option B:	Melting point
Option C:	Frezzing point
Option D:	Boiling point
Q12.	Natural rubber is very weak having tensile strength only_____kg/cm2
Option A:	**200**
Option B:	220
Option C:	240
Option D:	300

Q13.	Particle size of nanomaterial's _____
Option A:	1000nm
Option B:	1nm-100nm
Option C:	**10^{-9}nm**
Option D:	100^{-9}nm
Q14.	Thermosetting (TS) contains _____dimensional array of network
Option A:	**Three**
Option B:	four
Option C:	Linear
Option D:	Homolinear
Q15.	_____ contains alternate silicon oxygen structure which has organic radicals attached to silicone atoms.
Option A:	**Silicon resins.**
Option B:	Raw Rubber
Option C:	Vulcanized Rubber
Option D:	Silicon oxide
Q16.	Acid number of a lubricating oil is____required to neutralize all acidic constituents of 1 g of oil.
Option A:	mgs of K_2SO_4
Option B:	mgs of NaOH
Option C:	mgs of Na_2SO_4
Option D:	**mgs of KOH**
Q17.	Axle greases can be formed by adding _____ to resin and fatty oils.
Option A:	**Lime**
Option B:	Calcium
Option C:	Soda
Option D:	Lithium
Q18.	To increase oiliness of petroleum oil following which acid is not used,
Option A:	Palmitic acid
Option B:	Stearic acid
Option C:	**Acetic acid**
Option D:	Oleic acid
Q19.	What type of lubrication is used in delicate machines like watches, sewing machines, etc.?
Option A:	Fluid film lubrication
Option B:	Extreme lubrication
Option C:	**Boundary lubrication**
Option D:	Thin film lubrication
Q20.	Special additives added to mineral oils are known as,
Option A:	**Extreme pressure additives**
Option B:	Special additives

Option C:	Mineral additives
Option D:	Lubricating additives
Q21.	What is the number of phases and components in the following reaction? $Fe + H_2O$ (Gas) $\longrightarrow FeO + H_2$ (Gas)
Option A:	**3, 3**
Option B:	2, 3
Option C:	1, 3
Option D:	2, 2
Q22.	21. What is the degree of freedom for a water system?
Option A:	1
Option B:	2
Option C:	4
Option D:	**0**
Q23.	If a system has n number of gaseous components, then what is the number of phases?
Option A:	0
Option B:	1
Option C:	n
Option D:	**1**
Q24.	_____ is currently the principle method for obtaining the small quantities of high quality CNTs
Option A:	**Laser Vaporization**
Option B:	CVD
Option C:	Electrolysis
Option D:	flame synthesis
Q25.	CNT is _____
Option A:	**Semi-conductor**
Option B:	Conductor
Option C:	Insulator
Option D:	Impure metal