

University of Mumbai
Examination 2020 under cluster ___ (Lead College Short name)

Program: First Year Engineering

Curriculum Scheme: Rev2012

Examination: First Year Semester I

Course Code: FEC103 and Course Name: Applied Chemistry- I

Time: 1 hour

Max. Marks: 50

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

Q1.	At triple point the Water system is _____
Option A:	Nonvariant
Option B:	Monovariant
Option C:	Bivariant
Option D:	trivariant
Q2.	Which of the following is the purest form of water?
Option A:	Lake water
Option B:	Rain water
Option C:	Spring water
Option D:	River water
Q3.	Major constituent of cement is _____
Option A:	CaO
Option B:	Al ₂ O ₃
Option C:	MgO
Option D:	SiO ₂
Q4.	In which of the conditions Fluid film lubrication is used?
Option A:	High speed and low load machines
Option B:	Low speed and high load machines
Option C:	When viscosity of oil is very low
Option D:	When lubricant film becomes too thin
Q5.	Novolacs are type of _____
Option A:	Urea formaldehyde resins
Option B:	Synthetic rubbers
Option C:	Phenol formaldehyde resins
Option D:	Aramid resins
Q6.	Which of the following salt is not getting removed by boiling and filtration?
Option A:	Calcium bicarbonate
Option B:	Magnesium chloride
Option C:	Magnesium bicarbonate
Option D:	Magnesium carbonate
Q7.	What is the chemical composition of greases?
Option A:	Soap in vegetable oil
Option B:	Soap in water

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Option C:	Soap organic solvent
Option D:	Vegetable Oil in water
Q8.	Injection moulding is used mainly for _____
Option A:	Thermosetting plastics
Option B:	Thermosoftening plastics
Option C:	Both thermosetting and thermosoftening plastics
Option D:	Synthetic fibres
Q9.	For ideal lubricants the flash point must be _____
Option A:	High
Option B:	Low
Option C:	Negative
Option D:	zero
Q10.	What is the hardness of water containing 162 mg of calcium bicarbonate per litre of water? (Given: Atomic weights of C=12, H=1, Ca=40, O=16)
Option A:	162 ppm
Option B:	100 ppm
Option C:	81 ppm
Option D:	50 ppm
Q11.	Thermosetting plastics are _____
Option A:	Formed by addition polymerisation
Option B:	Soluble in all organic solvents
Option C:	Low molecular weight
Option D:	Cannot be reshaped and reused
Q12.	During setting and hardening of cement which component gets set very slow?
Option A:	Tricalcium aluminate
Option B:	Dicalcium silicate
Option C:	Tricalcium silicate
Option D:	Tetracalcium alumino ferrite
Q13.	Which of the following chemicals is used as oxidizing agent in determination of COD ?
Option A:	H ₂ SO ₄
Option B:	HgSO ₄
Option C:	Ag ₂ SO ₄
Option D:	K ₂ Cr ₂ O ₇
Q14.	Along the vapourisation curve which phases of the system are in equilibrium?
Option A:	Solid and liquid
Option B:	Liquid and gas
Option C:	Gas and solid
Option D:	All three are in equilibrium
Q15.	Which of the following is synthetic rubber?

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Option A:	Urea formaldehyde
Option B:	Phenol formaldehyde
Option C:	Polyurethane
Option D:	PMMA
Q16.	During permutit process of softening _____ ions are removed from hard water.
Option A:	Sodium
Option B:	Calcium
Option C:	Carbonate
Option D:	Chloride
Q17.	Benzoyl peroxide is used as a _____ during compounding of plastics
Option A:	Filler
Option B:	Pigment
Option C:	Lubricant
Option D:	Catalyst
Q18.	Which of the following is not property of nanotubes?
Option A:	They have low elasticity
Option B:	They have high tensile strength
Option C:	They have high thermal conductivity
Option D:	They have high electrical conductivity
Q19.	Polymethyl methacrylate is _____
Option A:	Thermoplastic
Option B:	Thermosetting plastic
Option C:	Thermohardening plastic
Option D:	Condensation polymer
Q20.	Calculate acid number of the lubricating oil whose 20 gm required 2.8 ml of 0.1 N KOH.
Option A:	0.847
Option B:	0.478
Option C:	0.784
Option D:	0.874
Q21.	During chlorination of water _____ acts as disinfecting agent.
Option A:	HCl
Option B:	HOCl
Option C:	NaCl
Option D:	KCl
Q22.	Which of the following statement is not correct with reference to phase rule?
Option A:	It is applicable to only heterogeneous system
Option B:	It helps to study behaviour of some alloys with heat treatment
Option C:	It requires the system to be in equilibrium
Option D:	It is applicable to the system affected by magnetic field

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Q23.	Which of the following is building unit of natural rubber?
Option A:	Cis-polyisoprene
Option B:	Trans-polyisoprene
Option C:	1,3-Butadiene
Option D:	2-butene
Q24.	In CVD method which of the following is used as carbon source?
Option A:	Alcohols
Option B:	Carbohydrates
Option C:	Hydrocarbons
Option D:	Ketones
Q25.	BOD stands for _____
Option A:	Biomedical oxygen demand
Option B:	Biological oxygen demand
Option C:	Biochemical oxygen demand
Option D:	Biophysical oxygen demand