

University of Mumbai
Examination 2020 under cluster APSIT

Program: Bachelor of Engineering
Curriculum Scheme: Rev 2016

Examination: First Year
Time: 1 hour

Semester II
Max Marks: 50

For the students : All The Questions are compulsory and carry equal marks	
Q1.	Electrochemical corrosion can occur only if :
Option A:	oxygen is present in contact with metal
Option B:	air is present in contact with metal
Option C:	liquid medium is in contact with metal
Option D:	none of the above are present
Q2.	Oxygenate MTBE stands for...
Option A:	Methoxy Tertiary Butyl Ether
Option B:	Methyl Ternary Butyl Ether
Option C:	Methyl Tertiary Bis Ether
Option D:	Methyl Tertiary Butyl Ether
Q3.	Which of the following is an example of ferrous alloys
Option A:	plain carbon steels
Option B:	gun metal
Option C:	tinmann s solder
Option D:	woods metal
Q4.	Composite materials are classified based on:
Option A:	Type of matrix
Option B:	Size-and-shape of reinforcement
Option C:	Both
Option D:	None
Q5.	Example for green solvent:
Option A:	liquid CO ₂
Option B:	sulphur dioxide
Option C:	sulphuric acid
Option D:	benzene
Q6.	Corrosion due to the formation of cavities around the metal is called as the:
Option A:	Pitting corrosion

University of Mumbai
Examination 2020 under cluster APSIT

Option B:	Soil corrosion
Option C:	Water line corrosion
Option D:	Galvanic corrosion
Q7.	Which of the following fuels possesses maximum calorific value:
Option A:	C= 84% , H= 6% , S= 4% and O=6%
Option B:	C= 84% , H= 12% ,S= 1% and O=1%
Option C:	C= 90% , H= 5% , S= 2% and O=3%
Option D:	C= 84% , H= 6% , S= 3% and O=6%
Q8.	Starting material for greener synthesis of adipic acid is :
Option A:	Benzene
Option B:	Glucose
Option C:	Aniline
Option D:	Butane
Q9.	Which of the following is made use in aircrafts :
Option A:	Magnesium
Option B:	Brass
Option C:	Bronze
Option D:	Duralumin
Q10.	Plywood is an example for :
Option A:	sandwich panel
Option B:	laminar composites
Option C:	both a and b
Option D:	none
Q11.	Which one of the following hydrocarbon would have the highest octane rating:
Option A:	$\begin{array}{c} \text{C-C-C-C-C} \\ \quad \\ \text{C} \quad \text{C} \end{array}$
Option B:	C-C-C-C-C-C
Option C:	$\begin{array}{c} \text{C-C-C-C-C-C} \\ \\ \text{C} \end{array}$
Option D:	$\begin{array}{c} \text{C-C-C-C-C-C} \\ \\ \text{C} \end{array}$

University of Mumbai
Examination 2020 under cluster APSIT

Q12.	Dry corrosion takes place in:
Option A:	Homogeneous solutions
Option B:	Heterogeneous solutions
Option C:	Neither neither homogeneous nor heterogeneous
Option D:	homogeneous and heterogeneous solutions
Q13.	Example for an antiknocking agent:.
Option A:	Tetraethyl lead
Option B:	Tetra methyl lead
Option C:	Both a and b
Option D:	None of the above
Q14.	Which of the following is not an alloy:
Option A:	Stainless Steel
Option B:	Bronze
Option C:	Brass
Option D:	Gold
Q15.	Find the % atom economy of the reaction: $\text{C}_6\text{H}_6 + 4.5 \text{O}_2 \xrightarrow{\text{V}_2\text{O}_5} \text{C}_4\text{H}_2\text{O}_3 + 2\text{CO}_2 + 2\text{H}_2\text{O}$
Option A:	44.1
Option B:	98
Option C:	48
Option D:	144
Q16.	In anodic coatings, the coating metals possess _____ reduction potential than base metal.
Option A:	Higher
Option B:	Lower
Option C:	Zero
Option D:	Cannot predict
Q17.	A gas used in an internal combustion engine had the following composition by volume: H ₂ = 45%, CH ₄ =36% , CO =15%, N ₂ =4.0%. Find the volume of air required for the combustion of 1m ³ of the gas.
Option A:	0.225 m ³
Option B:	1.020 m ³
Option C:	4.857 m ³

University of Mumbai
Examination 2020 under cluster APSIT

Option D:	0.45 m ³
Q18.	Volatile oxidation corrosion product of a metal is:
Option A:	Fe ₂ O ₃
Option B:	MoO ₃
Option C:	Fe ₃ O ₄
Option D:	FeO
Q19.	The hydrocarbon having 100 octane number is
Option A:	iso-heptane
Option B:	n-octane
Option C:	2,3 dimethyl pentane
Option D:	2,2,4-trimethylpentane
Q20.	Bhopal gas tragedy is due to the leakage of
Option A:	methyl isocyanate
Option B:	isocyanate
Option C:	methy tertiary butyl ether
Option D:	n-hexane
Q21.	When the ratio of anodic to cathodic area decreases, the rate of corrosion :
Option A:	decreases
Option B:	increases
Option C:	no effect
Option D:	stops for some time.
Q22.	A good fuel should possess:
Option A:	high ignition temperature
Option B:	moderate ignition temperature
Option C:	high calorific value
Option D:	both (b) and (c)
Q23.	Which of the following is not a step in powder metallurgy
Option A:	compression moulding
Option B:	sintering
Option C:	compacting
Option D:	metal powder formation

University of Mumbai
Examination 2020 under cluster APSIT

Q24.	When a buried pipeline is protected from corrosion by connecting to Mg block, it is called
Option A:	impressed voltage protection
Option B:	sacrificial cathodic protection
Option C:	sacrificial anodic protection
Option D:	any of these
Q25.	Proximate analysis of fuel is determination of percentage of :
Option A:	C, H, N, S, H ₂ O
Option B:	C, H ₂ O, ash and volatile matter
Option C:	C only
Option D:	useful heat evolved