

UNIVERSITY OF MUMBAI'S
GARWARE INSTITUTE OF CAREER EDUCATION AND DEVELOPMENT
ENTRANCE EXAMINATION FOR MASTERS IN PAINT TECHNOLOGY

DATE : 09-08-17

TIME 11 AM TO 12 NOON

MARKS : 50

Q. 1] Define the following :

(20 marks)

1) Vapour Pressure is -----

2) Adiabatic Process is-----

3) Thermochemistry is -----

4) Heterogeneous system is -----

5) Coulomb is -----

6) Corrosion is -----

7) Atomic Mass Number is -----

8) Polymer is -----

9) A Tranquillizer is -----

10) An Antiseptic is -----

Q. II] Circle your choice as a,b,c or d (20 marks)

- 1) The Concentration term independent of temperature is
a) Molarity b) Normality c) Molality d) Formality
- 2) The vapour pressure of water at 298 K is 18mm Hg, Its vapour pressure at 373 K would be
a) 760 mm b) 76 mm c) 760 cm d) 18 mm
- 3) A buffer solution has always,
a) pH = 7 b) pH = 10 c) definite pH
d) equal number of Hydrogen ions and Hydroxyl ions
- 4) The pH of human blood in a normal person is approximately,
a) 4.7 b) 6.04 c) 7.40 d) 8.74
- 5) When a radioactive substance is subjected to vacuum, the rate of disintegration,
a) decreases b) increases slowly c) is not affected d) increases very fast

- 6) Protons were discovered by,
 a) Chadwick b) Goldstein c) Rutherford d) Bohr
- 7) Acetaldehyde acts as,
 a) a catalyst b) a reducing agent c) an oxidizing agent d) a mordant
- 8) Formalin is an aqueous solution of
 a) methyl formate b) formic acid c) formaldehyde d) potassium formate
- 9) The reverse of esterification is known as,
 a) dehydration b) hydrolysis c) etherification d) reduction
- 10) On commercial scale glucose is prepared from,
 a) starch b) potato pulp c) sucrose d) both a & b
- 11) $2/5 + 1/3 = x/30$, where x is,
 a) 7 b) 11 c) 16 d) 22
- 12) If $x = y = 2z$, and $x.y.z = 256$, then x equals
 a) 2 b) 4 c) 6 d) 8
- 13) The area of a rectangular field is 1000 sq. metres. If the length of the field is y metres, then how many metres is the perimeter of the field?
 a) $y + 1000/y$ b) $2y + 1000$ c) $2y + 1000/y$ d) $2y + 2000/y$
- 14) Which of the following integers has the most divisors?
 a) 88 b) 91 c) 99 d) 101
- 15) If a job takes 12 men 4 hours to complete, how long should it take 15 men to complete the job?
 a) 2 hrs 40 mins b) 3 hrs c) 3 hrs 12 mins d) 3 hrs 24 mins
- 16) If a rectangle has length L, and the breadth is one half of the length, then the area of the rectangle is,
 a) L b) $(L \times L)$ c) $1/2 (L \times L)$ d) 2L
- 17) If $8a = 6b$ and $3a = 0$, then
 a) a and b are equal b) $a = 6$ c) $b/a = 4/3$ d) $a = 6$ & $b = 8$
- 18) If the ratio of the radii of two circles is 3 to 2 then the ratio of the areas of the two circles is
 a) 2 to 3 b) 3 to 4 c) 4 to 9 d) 9 to 4

19) Which of the following numbers is the least common multiple of the numbers 2,3,4& 5

- a) 12 b) 24 c) 40 d) 60

20) The angles of a triangle are in the ratio 2 ; 3 ; 4, the largest angle in the triangle is

- a) 40 deg. b) 70 deg c) 75deg. d) 80 deg

Q. III] Expand the following abbreviations, (2 marks)

- 1) L.I.C
- 2) B.E.S.T
- 3) M.T.N.L.
- 4) T.O.I

Q. IV] Write the molecular formula of the following (3 marks)

- 1) Lead Oxide
- 2) Sodium Chloride
- 3) Anthracene
- 4) Zinc Carbonate
- 5) Potassium Sulphate
- 6) Methane

Q. V] Fill in the blanks (5 marks)

- 1) The main branches of Chemistry are -----, -----
----- and -----
- 2) _____ and _____
are indicators in volumetric analysis
- 3) Biology consists of ----- and -----
- 4) Fluid flow could be -----,

and -----.

————— x —————

SEAT NO.: _____

SUPERVISOR'S SIGN : _____

UNIVERSITY OF MUMBAI'S
GARWARE INSTITUTE OF CAREER EDUCATION AND DEVELOPMENT
MASTERS IN PAINT TECHNOLOGY
ENTRANCE EXAMINATION

DATE: JULY 18, 2017

TIME: 11 AM TO 12 NOON

MARKS : 50

Q.1] Define the following :

(20 marks)

1) Solution is -----

2) Thermodynamics is -----

3) A Cyclic process is -----

4) Enthalpy is -----

5) A Buffer solution is -----

6) Electromotive Force is -----

7) Radioactivity is -----

8) Fats and Oils are -----

9) Medicine or Drug is -----

10) Antioxidants are -----

Q II Circle your choice as a,b,c or d (20 marks)

- 1) Which of the following is an example of a homogeneous system,
a) ice in contact with water b) chlorine, water and chloroform
c) a mixture of oxygen and nitrogen gas d) all of these.
- 2) The study of Ebullioscopy deals with:
a) lowering of vapour pressure b) osmotic pressure c) depression in freezing point d) elevation in boiling point
- 3) Evaporation of sweat from human body is:
a) an exothermic process b) an endothermic process c) a spontaneous process d) an adiabatic process
- 4) pH of blood is maintained constant by mechanism of:
a) common ion effect b) buffer c) solubility d) all of these
- 5) If the pH value of a solution is zero, the solution is,
a) a strong acid b) a very weak acid c) neutral d) a base
- 6) Blue Vitriol has a formula :
a) $\text{CuSO}_4 \cdot 2\text{H}_2\text{O}$ b) $\text{ZnSO}_4 \cdot 10\text{H}_2\text{O}$ c) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ d) $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$
- 7) Which of the following compound is used to prepare bakelite resins:
a) Acetaldehyde b) Ethanol c) Phenol d) Methyl Amine
- 8) Ether free from moisture and alcohol is known as:
a) dry ether b) absolute ether c) pure ether d) spirit ether
- 9) Fats are esters of,
a) fatty acids b) glycerol c) glyceride d) both a & b

- 10) Proteins are
 a) polymers b) condensed polymers c) addition polymers d) all of these
- 11) If a factory A turns out "a" cars in an hour and factory B turns out "b" cars every 2 hours, how many cars will both factories turn out in 8 hours?
 a) $a + b$ b) $8b$ c) $8a + 4b$ d) $8a + 8b$
- 12) How many squares with radius $\frac{1}{2}$ inch long are needed to cover a rectangle which is 4 feet long and six feet wide
 a) 96 b) 3456 c) 3824 d) 14266
- 13) If $2x - y = 4$, then $6x - 3y$ is
 a) 4 b) 6 c) 8 d) 12
- 14) If the side of a square increases by 40%, then the area of the square increases by,
 a) 16% b) 96% c) 116% d) 140%
- 15) It takes 3 tons of Copper ore and 5 tons of iron ore to make one ton of alloy A. How many tons of alloy A can be made from 60 tons of Copper and 90 tons of iron
 a) 18 b) 20 c) 30 d) 50
- 16) Successive discounts of 20% and 15% are equal to a single discount of
 a) 30% b) 32% c) 34% d) 35%
- 17) What is the next number in the arithmetic progression 2, 5, 8,
 a) 7 b) 9 c) 10 d) 11
- 18) An angle x degrees has the property that its complement is equal to $\frac{1}{6}$ of its supplement, where x is
 a) 30 b) 45 c) 63 d) 72
- 19) If the altitude of a triangle increases by 5% and the base of the triangle increases by 7%, by what % the area of the triangle increase
 a) 3.33% b) 6% c) 12% d) 12.35%
- 20) If it takes 12 workers working independently 3 hours to make 500 boxes, how many minutes should it take for 16 workers to make 300 boxes
 a) 60 b) 72 c) 81 d) 98

Q. III] Expand the following Abbreviations

(2 marks)

- 1) U.N.O
- 2) Ph D
- 3) I.A.S
- 4) L.B.W

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- 1) U.N.O
- 2) Ph D
- 3) I.A.S
- 4) L.B.W

Q. IV] Write the molecular formula of the following:

(3 marks)

- 1) Ethylene
- 2) Naphthalene
- 3) Cuprous oxide
- 4) Zinc Phosphate
- 5) Nitric Acid
- 6) Potassium Permanganate

Q. V] What is the business of the following organizations

(3 marks)

- 1) Blue Star
- 2) Chowgule and Company
- 3) Maruti Udyog
- 4) Berger Lewiis
- 5) Ashok Leyland
- 6) Johnson & Johnson

Q. VI] Where are the following situated

(2 marks)

- 1) Eden Gardens
- 2) Sanjay Gandhi National Park
- 3) Ajanta Caves
- 4) Hanging Gardens
