

- 1) Water soluble vitamins are not stored in body (liver) except
a) Inositol b) Pantothenic acid c) Cynocobalamine d) Pyridine.
- 2) β -carotene is the synonym of
a) **Vitamin A** b) Vitamin B c) Vitamin C d) Vitamin D
- 3) 7-dehydrocholesterol when exposed to sunlight gets converted into.
a) Ergocalciferol b) **Cholecalciferol** c) Cholestrol d) Ergosterol
- 4) Conjugated Protein involved in the vision is..
a) Glycoprotein b) Lipoprotein c) Metalloprotein d) **Rhodopsin.**
- 5) Calcitriol, a hormone required for the absorption of calcium is synthesized by..
a) Pyrenchyma in liver b) **Pyrenchyma in kidney** c) Kuffer cell in liver d) β -cell in pancreas.
- 6) Tocopherol, Vitamin E is
a) **Antioxidant** b) Antiplatelet factor c) Night blindness factor d) Anticouglant
- 7) Menadione is the synthetic form of.
a) Vitamin A b) Vitamin D c) Vitamin E d) **Vitamin K**
- 8) Glucose 6-phosphate dehydrogenase test is done to avoid the adverse reaction due to the application of.
a) Isoniazide b) Daunorubicin c) Erythrocine d) **Primaquine**
- 9) For the absorption of Vitamin E, one of the following is necessary
a) Iodine b) magnesium c) **Selenium** d) calcium
- 10) A competitor inhibitor of enzyme:
a) **Increases K_m without affecting V_{max}** b) Decreases K_m without affecting V_{max}
c) Increases V_{max} without affecting K_m d) Decreases both K_m & V_{max}
- 11) Intestinal absorption of Calcium & Phosphorous is impaired in the deficiency of.
a) Vitamin A b) Pantothenic acid c) Lipoic Acid d) **Vitamin D**
- 12) One of the following enzyme does not offer protection against free radicals
a) Catalase b) **Lipase** c) Superoxide dismutase d) Peroxidase
- 13) Which one of the following is an essential cofactor in carboxylation reaction
a) Coenzyme A b) TP c) **Biotin** d) CTP
- 14) Alopecia in mouse can be caused due to the deficiency of
a) Cyanocobalamine b) Lipoic acid c) Niacin d) **Inositol**
- 15) Dicoumarol poisoning can be treated by using antidote, one of which is
a) **Menadione** b) Tocopherol c) Retinol d) Pantothenic acid
- 16) Following enzyme is present in sperm head
a) Aldolase b) Amylase c) Creatine kinase d) **Hyaluronidase**
- 17) Pyruvate from aerobic glycolysis enters in TCA cycle by conversion into Acetyl coA. This conversion requires coenzyme form of
a) Riboflavin b) **Thiamine** c) Niacin d) Pyridoxin
- 18) Determination of SGOT level is useful in the diagnosis of
a) **Hepatitis** b) Cancer c) Acute pancreatitis d) Muscular atrophy
- 19) One of the following involved in the synthesis of steroids from cholesterol by hydroxylation in adrenal cortex is
a) Pyridoxin b) Tocopherol c) **Ascorbic acid** d) Niacin
- 20) Oxidation of $FADH_2$ to FAD in oxidative phosphorylation yields
a) 1 ATP b) **2 ATP** c) 3 ATP d) 4 ATP
- 21) Warferin, a anticoagulant drug, antagonizes the activity of
a) Vit. D b) **Vit. K** c) Inositol d) Cyanocobalamine
- 22) One of the following process occurs exclusively outside mitochondria
a) β -oxidation b) **Glycolysis** c) TCA cycle d) Urea cycle
- 23) Synthesis of prothrombin is catalysed by
a) Vit. A b) Vit. C c) Vit. E d) **Vit. K**
- 24) Deficiency of Hypoxanthine Guanine phosphoribosyl transferase leads to
a) **Lesch-Nyhan syndrome** b) Von Gierk's disease c) Hypouricemia d) Reye's syndrome
- 25) Pyridine, a heterocyclic nucleus, is present in the structure of
a) Folic acid b) Thiamine c) **Riboflavin** d) Niacin



Mahajan
PRINCIPAL

DADASAHEB BALPANDE COLLEGE
OF PHARMACY, BESA, NAGPUR - 37

- 1) HLB range of Detergents are
A) 15-18 B) 8-16 C) 13-15 D) 7-9
- 2) Polysorbate 80 (Tween 80) is a surfactant of type
A) Amphiphilic B) anionic C) Cationic D) Non- Ionic
- 3) Nernst potential is
A) Potential between shear plane and electroneutral region B) **Electrothermodynamic potential**
C) Potential at shear plane D) Electrokinetic potential
- 4) The relationship between pressure of the gas and amount adsorbed at constant temp. Has been expressed by
A) Langmuir adsorption isotherm B) **Freundlich isotherm**
C) Gibbs adsorption D) Multimolecular adsorption
- 5) For the wetting of solid by liquid, the contact angle should have a value
A) 0 B) 90 C) 180 D) A or B
- 6) Surface tension is defined as the surface free energy per unit change in
A) **Area** B) density C) length D) Volume
- 7) The reaction follow zero order rate kinetic, Shelf life is expressed by equation
A) $a/2K_0$ B) **$0.1 a/K_0$** C) $0.105/k_0$ D) $0.693/k_0$
- 8) Passive diffusion follows
A) Zero order rate kinetic B) Pseudo zero order rate kinetic
C) **First order rate kinetic** D) Pseudo first order rate kinetic
- 9) The conversion of trans- stilbene to cis stilbene follows the molecularity
A) Bimolecular B) Termolecular C) **Unimolecular** D) Both A and C
- 10) Cold place indicate the product should be stored in a place
A) Not exceeding 8°C B) Between 2°C and 8°C C) Between 8°C and 25°C D) **Both A and B**
- 11) The accelerated stability studies are primarily used to determine
A) Energy of activation of the reaction B) K value at elevated temperature
C) K value at room temperature D) **shelf life of product**
- 12) Which one of these methods is the most effective in preventing the rate of hydrolysis?
A) Buffer B) Complexation C) **Removal of water** D) suppression of solubility
- 13) Which of the following reaction is observed in the degradation of ampicillin?
A) Decarboxylation B) **Hydrolysis** C) Oxidation D) Recimization
- 14) Which one of the following is primarily not a chemical decomposition
A) Isomerism B) hydrolysis C) Oxidation D) **Volatilization**
- 15) Arrhenius equation explains the effect of temperature on rate of reaction by using equation
A) $K = A e^{-E_a/RT}$ B) $K = A e^{E_a/RT}$ C) $A = k e^{E_a/RT}$ D) $A = k e^{-E_a/RT}$
- 16) Which one the following ingredients enhances the dissolution of a hydrophobic drug
A) Gum acacia B) Ethylcellulose C) **Lactose** D) Magnesium stearate
- 17) Which one of the following creates more difficulties regarding dissolution?
A) Amorphous form B) Anhydrous form C) **Crystalline Form** D) Metastable form
- 18) Which category of drugs is evaluated for dissolution
A) Highly diffusible B) Ionizable C) **Poorly water soluble** D) Water soluble
- 19) According to Noyes Whitney equation, the factor that not affect the dissolution
A) Intrinsic solubility B) surface area C) **Temperature** D) Viscosity
- 20) Which one of the equation is used to identify the powder drug dissolution from tablet or capsule
A) Hendersen- Hasselbalch B) Higuchi C) **Hixson- Crowell cube root** D) Noyes- Whitney
- 21) In Ficks First law rate of mass transfer is expressed as
A) Concentration gradient B) **Flux** C) diffusion coefficient D) All of the above
- 22) When the release of drug from dosage form satisfies Higuchi's equation the release of drug can be considered as
A) Absorption rate controlled B) **Diffusion rate controlled**
C) Dissolution rate controlled D) Dosing rate controlled
- 23) The degree of ionisation of weak electrolyte drug can be estimated using the property
A) Diffusion B) **Dissociation constant** C) Partition coefficient D) Sedimentation coefficient

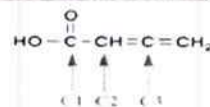


KEY ANSWER SHEET

DADASAHEB BALPANDE COLLEGE OF PHARMACY, BESA, NAGPUR

GPAT TEST SERIES 2019-20 Test 02

1. Which set of hybridization states of C1, C2, and C3 of the following molecule is correct?

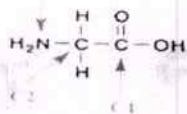


- a) sp^2, sp^2, sp^2 ☒ b) sp^2, sp^2, sp c) sp^3, sp^2, sp d) sp^3, sp^2, sp^2

2. Which of the following statements is wrong?

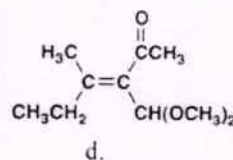
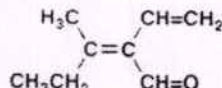
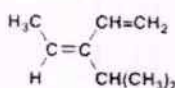
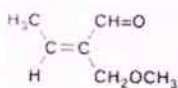
- a) When two orbitals overlap in-phase with each other, a bonding molecular orbital forms.
b) When two orbitals overlap out-of-phase with each other, an antibonding molecular orbital form.
☒ c) When one of two atoms connected by a σ bond rotates about the bond axis, orbital overlap is lost.
d) When one of two atoms connected by a π bond rotates about the bond axis, orbital overlap is lost.

3. Which set of approximate bond angles at C1, C2, and N of the following molecule indicates the correct shape?



- a) C1 120°, C2 120°, N 120° b) C1 109.5°, C2 120°, N 109.5°
c) C1 109.5°, C2 120°, N 120° ☒ d) C1 120°, C2 109.5°, N 109.5°

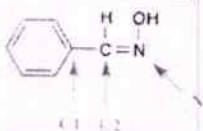
4. Which alkene has the (E)-configuration?



5. Which molecule contains an sp -hybridized atom?

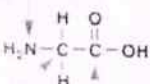
- a) HCO_2H b) HNO_3 c) HNO_2 ☒ d) HCN

6. Which set of approximate bond angles at C1, C2, and N of the following molecule indicates the correct shape?



- ☒ a) C1 120°, C2 120°, N 120° b) C1 120°, C2 120°, N 109.5°
c) C1 109.5°, C2 120°, N 120° d) C1 120°, C2 109.5°, N 109.5°

7. Which set of hybridization states of C1, C2, and N of the following molecule is correct?



- ☒ a) C1 sp^2 , C2 sp^3 , N sp^3 b) C1 sp^3 , C2 sp^2 , N sp^3 c) C1 sp^3 , C2 sp^2 , N sp^2 d) C1 sp^2 , C2 sp^2 , N sp^3

8. The inductive effect

- ☒ a) Implies the atoms ability to cause bond polarization
b) Increases with increase in distance
c) Implies the transfer of lone pair of electrons from more electronegative atom to the lesser electronegative atom in a molecule
d) Implies the transfer of lone pair of electrons from lesser electronegative atom to more electronegative atom in a molecule

9. The oxygen atom in phenol

- a) Exhibits only inductive effect b) Exhibits only resonance effect
☒ c) Has more dominating resonance effect than inductive effect
d) Has more dominating inductive effect than resonance effect

10. A group that can donate an electron pair is

- a) Bronsted acid b) Bronsted base c) Lewis acid ☒ d) Lewis base



Nahojan
PRINCIPAL
DADASAHEB BALPANDE COLLEGE
OF PHARMACY, BESA, NAGPUR - 37

1. Which of the following is the simplest amino acid?
a) Glycine b) Alanine c) Aspergine d) Tyrosine
2. The animal cells are interconnected by _____
a) Cell wall b) **Desmosomes** c) Plasma membrane d) Plasmodesmata
3. r-RNA is synthesized by _____
a) Cytoplasm b) Golgi body c) **Nucleolus** d) Nucleus
4. Cristae are associated with?
a) **Mitochondria** b) Cytoplasm c) Vacuole d) Ribosomes
5. Glycocalyx is associated with _____
a) Cell wall b) **Plasma membrane** c) Nucleus d) Ribosomes
6. Detoxification of lipid drugs and other harmful compounds in ER is carried out by?
a) **Cytochrome P450** b) Cytochrome bf c) Cytochrome D d) Cytochrome F
7. The sinoatrial node depolarizes more frequently under the influence of _____
a) medulla oblongata b) vagus nerve c) **norepinephrine** d) acetylcholine
8. _____ is the enzyme that converts Angiotensinogen to Angiotensin I.
a) **Rennin** b) ACE c) ANP d) ADH
9. Digestive enzymes are present in _____
a) Liposomes b) **Lysosomes** c) Ribosome d) Mitochondria
10. Mitral valve is present between _____
a) right atrium and left ventricle b) right and left ventricle c) left ventricle and aorta d) **left atrium and left ventricle**
11. Cell drinking is _____
a) Exocytosis b) Endocytosis c) **Pinocytosis** d) Phagocytosis
12. Centrioles take part in the formation of _____
a) Cell plate b) **Spindle** c) Nucleus d) To start cell division
13. Synthesis of RNA and proteins take place in _____
a) M phase b) S phase c) **G1 Phase** d) G2 phase
14. Spindle fibers are made up of _____
a) Spindles b) **Tubulin** c) Flagella d) Humulin
15. Chromosomes are separated during?
a) Prophase b) **Anaphase** c) Metaphase d) Telophase
16. Blood enters into the heart because of muscles of _____
a) **atria relax** b) ventricles contract c) ventricles relax d) atria contract
17. Cardiac output is determined by _____
a) heart rate b) stroke volume c) blood flow d) **heart rate and stroke volume**
18. DNA replicates during _____
a) G1 phase b) G2 phase c) **S phase** d) Prophase
19. Chromosomes are arranged along equator during _____
a) Prophase b) **Metaphase** c) Anaphase d) Telophase
20. Formation of antibodies within our body is called?
a) Passive immunity b) **Active immunity** c) Innate Immunity d) Acquired immunity
21. Metastasis is associated with _____
a) **Malignant tumor** b) Benign tumor c) Gall Tumor d) Crown gall tumor
22. Leukemia is due to _____
a) Excess of RBCs b) Excess of Platelets c) **Excess of WBCs** d) Excess of antibodies
23. The opening of right atrium into right ventricle is guarded by _____
a) mitral valve b) **tricuspid valve** c) bicuspid valve d) aortic semilunar valve
24. The organism which carries disease from one organism to another is called _____
a) Agent b) Host c) Parasite d) **Vector**
25. Which immunoglobulin is largest in size?

