Enrollment No……

Bachelor of Pharmacy
Second Semester Examination, June-2021
Human Anatomy & Physiology - II [BP201T]

Time: 3:00 Hrs **Max Marks 75**

Note : (i) All parts of the question paper are compulsory.
(ii) All question of each part to be attempt at one place.

Part-A

Q.1 Multiple Choice Questions. [1×20= 20 Marks]

1. Which of the listed terms is described by: "All the chemical processes that take place in the organelles and cytoplasm the cells of the body"?
   A. Metabolism
   B. Cellular respiration
   C. Homeostasis
   D. Physiology

2. The directional term "superior" in anatomy means which of the following?
   A. cephalic
   B. ventral
   C. caudal
   D. dorsal

3. Which of the following is the best definition of physiology?
   A. The microscopic study of tissues and cells
   B. The study of how the body works.
   C. All the chemical processes that take place in the organelles of the body's cells.
   D. The body's automatic tendency to maintain a relatively constant internal environment.

4. Which one of the following statements is correct?
   A. the diaphragm separates the brain and spinal cord
   B. the ventral cavity contains the male and female reproductive system
   C. the abdomino-pelvic cavity contains the spinal cord.
   D. the dorsal cavity contains the brain and spinal cord

5. Which structure within the cell produces ATP (adenosine triphosphate)?
   A. the mitochondria
   B. the nucleus

C. peripheral proteins
D. the endoplasmic reticulum

6. Except for one, the following are types of cells. Which one is **NOT** a type of cell?
A. platelets
B. leucocytes
C. macrophages
D. osteoblasts

7.Which cell organelles contain an acidic environment capable of digesting a wide variety of molecules?
A. Lysosomes
B. Ribosomes
C. Centrosomes
D. Golgi complex

8.Which of the following is **NOT** made predominantly from epithelial issue?
A. In the dermis
B. In exocrine glands
C. In endocrine glands
D. In the endothelium of blood vessels

9.What is the name of the membrane that surrounds the lungs?
A. visceral peritoneum
B. parietal peritoneum
C. visceral pleura
D. dura mater

10.Which of the following is the smallest living structural unit of the body?
A. atom
B. molecule
C. organelle
D cell

11.Which of the following is **NOT** a connective tissue?
A. blood
B. mesothelium
C. fat
D. tendon

12.The cells that are found in tendons are called:

A. osteocytes
B. adipocytes
C. haemocytoblasts
D. fi broblasts

13. Which one of the following terms best describes the structure of the cell membrane:

A. fluid mosaic model
B. static mosaic model
C. quaternary structure
D. multilayered structure

14. Which one of the following best describes what a cell membrane consists of?

A. lipids, proteins, ribosomes
B. lipids, cholesterol, proteins
C. cholesterol, proteins, cytoplasm
D. lipids, proteins, cytoplasm

15. Active transport across the plasma membrane may be described by which statement?

A. active transport requires energy from ATP.
B. active transport is also known as endocytosis.
C. active transport moves molecules along their concentration gradient.
D. active transport is the movement of lipid-soluble molecules through the plasma membrane.

16. What do fibroblasts, chondroblasts, osteoblasts and haemocytoblasts have in common?

A. they are all types of white blood cell.
B. they are all macrophages.
C. they are all immature cells.
D. they are all types of epithelial cell.

17. The plasma membrane of a cell contains molecules that have a hydrophobic end and a hydrophilic end What are they called?

A. phospholipids
B. cholesterol
C. integral proteins
D. glycoproteins

18. Adipocytes are found in which type of tissue?
    A. muscle tissue
    B. epithelial tissue
    C. nervous tissue
    D. connective tissue

19. Which of the following is **NOT** found in the plasma membrane?
    A. proteins
    B. cholesterol
    C. endoplasmic reticulum
    D. phospholipids

20. Which one of the following cell types is found in epithelial tissue?
    A. mast cells
    B. adipocytes
    C. chondroblasts
    D. keratinocytes

Q.2 Answer **any two** of the following: **(2×10=20)**

(1) Define cell, Write functions of cell &Draw a labelled diagram of cell?
(2) Write classification of peripheral nervous system?
(3) Give a brief note on electrocardiogram?

Q. 3 Answer **any seven** of the following: **(7×5=35)**

1. Define anatomy and physiology?
2. Explain cell signalling?
3. Define tissue. Explain type of tissue?
4. Draw a labelled diagram of skin?
5. Write division of skeleton system?
6. Explain physiology of muscular contraction?
7. Define joints. Explain type of joints?
8. Write composition and functions of blood?

Enrollment No……

Bachelor of Pharmacy
Second Semester Main Examination, June-2021
Pharmaceutical Organic Chemistry-I [BP202T]

Time: 3:00 Hrs **Max Marks 75**

Note: (i) All parts of the question paper are compulsory.
(ii) All question of each part to be attempt at one place.

Part-A

Q.1 Multiple choice questions. [1x20 = 20 Marks]

1. Saturated hydrocarbons are otherwise referred as:
   a) Alkanes
   b) Alkenes
   c) Alkynes
   d) Alkaloids

2. Which carbenium ion is the most stable?
   A.CH3+
   B.Me3C+
   C.Me2CH+
   D.MeCH2+

3. Identify the smallest alkane which can form a ring structure (cycloalkane)
   a) Cyclomethane
   b) Methane
   c) Cyclopropane
   d) Propane

4. Triple bond with two carbon atoms on either side is called
   a) Methnyl group
   b) Ethynyl group
   c) Propionyl group
   d) Propargyl group

5. Identify the incorrect statement regarding alkadiene
   a) These are acyclic acids
   b) These are unsaturated hydrocarbons
   c) These compounds have only one C=C bonds
   d) These compounds have the general formula CnH2n-2

6. Which pairing is *correct*?
   A. Allene; sp3 hybridized C.

B. Ethene; sp3 hybridized C.
C. Ethyne; sp2 hybridized C.
D. Propene; sp3 and sp2 hybridized C.

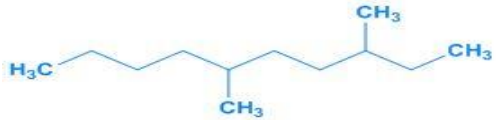
7. Which statement is incorrect about butene?
   A. Hydrogenation of butene gives butane.
   B. Butene contains two sp2 hybridized C atoms.
   C. (Z)-But-2-ene is favoured over (E)-but-2-ene.
   D. Butene has two constitutional isomers

8. Which of the following statements incorrectly describes the reaction of buta-1,3-diene with a substituted alkene CH2=CHX where X is an electron-withdrawing group
   A. A cyclic alkene if formed.
   B. The reaction is that of a dienophile with a diene.
   C. The reaction is a Diels-Alder reaction.
   D. It is a [2 + 2] cycloaddition.

9. Examples of addition reactions include all but one of the following. Which is the odd one out?
   A. Reaction of HBr with but-2-ene.
   B. Combustion of propene.
   C. Polymerization of ethene.
   D. Reaction of Cl2 with propene.

10. When HB rreacts with propene (by a non-radical route), which statement about the mechanism is *incorrect*?
   A. Br– adds in a rate-determining step.
   B. H–Br is heterolytically cleaved.
   C. The major product is 2-bromopropane.
   D. A carbenium ion forms as an intermediate.

11. Name the compound whose structure is shown below.



   A. 2-ethyl-5-methylnonane
   B. 3,6-dimethyldecane
   C. 6-butyl-3-methylheptane
   D. 5,8-dimethyldecane

12. Name the compound whose structure is shown below.

A. 2-methylpent-3-yne
B. 2,2-dimethylbut-2-yne
C. 1,4-dimethylpent-3yne
D. 4-methylpent-2-yne

13. Which of the following compounds has the highest boiling point?
a) Hexane
b) 2-methylpentane
c) 2,2-dimethylbutane
d) 3-methylpentane

14. Which of the following reaction types is characteristic of alkenes?
a) Nucleophilic subsititution
b) Electrophilic addition
c) Electrophilic substitution
d) Nucleophilic addition

15. Which of the following carbocations is the least stable?
a) Secondary
b) Primary
c) Tertiary
d) Methyl

16. What will be the major product obtained from the acid-catalysed hydration of pent-1-ene?
a) Pentan-1-ol
b) Pentan-1,2-diol
c) Pentan-2-ol
d) Pentane

17. Which of the following metals is used as a catalyst in the catalytic hydrogenation of both alkenes and alkynes?
a) Palladium
b) Iron
c) Magnesium
d) Copper

18. What will be the final product, after protonation, of the reaction between an acetylide anion and a ketone?
a) Carboxylic acid

b) Secondary alcohol
c) Primary alcohol
d) Tertiary alcohol

19. What product(s) will be obtained from the acid-catalysed hydration of pent-2-yne?
    a) Pentanal
    b) Pentan-2-one and pentan-3-one
    c) Pentan-2-one
    d) Pentan-3-one

20. Unsaturated fatty acids are used as excipients. Degradation of these compounds causes fats and oils to taste and smell rancid.
    What is the major chemical process through which this degradation occurs?
    a) Oxidation
    b) Hydration
    c) Bromination
    d) Hydrogenation

Part-B

Short answer questions (any 7) [5x7 = 35 Marks]

Q.1 Discuss about kekule structure of benzene
Q.2 What is the Markownikoff's orientation?
Q.3 Discuss about electrophilic addition?
Q.4 Describe the characteristics of hydrocarbons?
Q.5 Describe Structural isomerism in organic compounds?
Q.6 Differentiate between E1 and E2 reaction?
Q.7 What is hybridization ? Give Suitable Example.
Q.8 Write rearrangement of carbocation.
Q.9 Write a short note on- (any two) (i) SN2 Reaction (ii) Saytzeff's Rule (iii) Ozonolysis
Q.10 What is Diel's Alder reaction

Part-C

Long answer questions (any 2) [10x2 = 20 Marks]

Q.1 Explain method of preparation of alkyle halide. Give the reaction and mechanism of elimination reaction with suitable examples.
Q.2 Discuss halogenations of alkane with mechanism. Explain the a Markonikov's and antiMarkonikov's rule with mechanism.

Q.3 Explain bayers stain theory with suitable example. Discuss the free radical addition reaction of conjugated diene with suitable example

Enrollment No……

Bachelor of Pharmacy
Second Semester Examination, June-2021
Biochemistry [BP203T]

Time: 3:00 Hrs **Max Marks 75**

Note: (i) All parts of the question paper are compulsory.
(ii) All question of each part to be attempt at one place.

Part-A

Q.1 Multiple Choice Questions. **[1x20=20 Marks]**

1. Which of the following pentose occurs in glycoproteins?
   a) D-Ribulose
   b) D- Lyxose
   c) L- Xylulose
   d) L-Fucose

2. Which test is specifically used as a test for keto sugar?
   a) Benedict's test
   b) Barfoed's test
   c) Tollen's phloroglucinol- HCl test
   d) Seliwanoff's resorcinol test

3. Fatty acids of lipids are generally
   a) Branched chain
   b) Cyclic chain
   c) Linear chain with even number of carbon atoms
   d) Linear chain with odd number of carbon atoms

4. Cholesterol is a
   a) Phospholipid
   b) Glycolipid
   c) Fatty acid
   d) Steroid

5. Which of the following requires ATP as energy source?
   a) Rhodospin cycle
   b) Formation of AMP from IMP
   c) Synthesis of creatine phosphate

d) Stimulation of adenylate cyclase for synthesis of cAMP

6. Proteins are polymers of
   a) Sugars
   b) Amino acids
   c) Fatty acids
   d) Nucleotides

7. Which of the following is not a basic amino acid
   a) Arginine
   b) Lysine
   c) Leucine
   d) Histidine

8. Oxidation is a chemical reaction involving
   a) Loss of electrons
   b) Loss of hydrogen
   c) Addition of oxygen
   d) All of the above

9. End product of anaerobic phase of glycolysis is
   a) Acetyl CoA
   b) Pyruvate
   c) Fructose-1, 6-biphosphate
   d) Lactate

10. Free energy of hydrolysis of ATP in kcal/mol is
    a) 10.3
    b) 9.3
    c) 7.3
    d) 8.3

11. Fat depot is
    a) Liver
    b) Muscles
    c) Adipose Tissue
    d) All of the above

12. Highest proportion of circulating cholesterol is found in

a) VLDL
b) LDL
c) HDL
d) Chylomicrons

13. Enzymes of urea cycle are located in
    a) Lysosomes
    b) Mitochondria
    c) Cytosol
    d) Both b) and c)

14. *De novo* biosynthesis of purine occurs in
    a) Liver
    b) Kidneys
    c) Brain
    d) All of the above

15. The genetic code was cracked or deciphered by
    a) Nirenberg and Mathaei
    b) H.G. Khorana
    c) Nirenberg and Leder
    d) All of the above

16. Which of the following is not property of enzymes?
    a) Colloidal
    b) Thermostable
    c) Proteinaceous
    d) Highly specific

17. A nonproteinaceous enzyme is
    a) Exoenzyme
    b) Ribozyme
    c) Endoenzyme
    d) Lysozyme

18. Which vitamin contains a Cobalt atom and has only animal sources?
    a) Vitamin B_1
    b) Vitamin B_2
    c) Vitamin B_6

d) Vitamin B_{12}

19. Full form of DNA is
    a) Deoxyribonucleic Acid
    b) Dangerous Nitrogen and Acids
    c) Di nicotinic Acid
    d) None of the above

20. In which tissue, ketone bodies are not utilized or oxidized?
    a) Heart
    b) Brain
    c) Liver
    d) Muscles

Part-C

Short answer questions **[7x5 = 35 Marks]**

Note : Attempt any 7 questions. Each question carries 5 marks.

1. Define and classify the carbohydrates. Give the structure of glucose.
2. What do you mean by lipids? Give a note on classification of lipids.
3. Write a note on cyclic AMP?
4. Describe the types of amino acids on the basis of their nutritional requirements.
5. Give a note on energy rich compounds in biological systems.
6. Write a brief note on regulation of glycolysis.
7. Explain in brief about the mechanism of oxidative phosphorylation.
8. What is bile? Give its functions.

Part-C

Long answer questions. **[2x10 = 20 Marks]**

Note: Attempt any two questions. Each question carries 10 marks.

1. How will you describe HMP shunt?
2. Explain in brief about factors affecting enzyme action.
3. Describe the role of rRNA in protein synthesis.

Enrollment No……

Bachelor of Pharmacy
Second Semester Examination, June-2021
Pathophysiology [BP204T]

Time: 3:00 Hrs **Max Marks 75**

Note: (i) All parts of the question paper are compulsory.
(ii) All question of each part to be attempt at one place.

Part-A

Q.1 Multiple choice questions. **[1x20=20 Marks]**

(i) Which of the following is not a factor affecting atherosclerosis…….
(a) High BP (b) Lack of exercise
(c) Obesity (d) Excessive exercise

(ii) Asthma is defined as chronic inflammation disease of……..
(a) Heart (b) Airway
(c) Arteries (d) None of the above

(iii) **……**Is an enlargement of alveoli with destruction of alveolar septa.
(a) Bronchitis (b) Emphysema
(c) Polycythemia (d) All of the above

(vi) Which of the following is a symptom of asthma?
(a) Fever (b) Body pain
(c) Wheezing (d) Headache

(v) Which type of pneumonia is call community spread pneumonia?
(a) Secondary pneumonia (b) staphylococcal pneumonia
(c) Primary pneumonia (d) pneumococcal pneumonia

(vi) In case of respiratory failure Partial pressure of arterial O_2 is……
(a) < 60 mm Hg (b) > 60 mm Hg
(c) = 60 mm Hg (d) < 49 mm Hg

(vii) Dolor means…….
(a) Redness (b) Swelling
(c) Tumor (d) Pain

(viii) Leucocytes migrates in extracellular space through gaps between endothelium referred as
(a) Transduction (b) Locomotion
(c) Emigration (d) Transfer

(ix) The escape of through endothelial cells called as diapedesis.
(a) WBC (b) Basophils
(c) RBC (d) Macrophages

(x) Alteration in urine volume to < 50 ml/day is known as …….
(a) Oliguria (b) Non oliguria
(c) Anuria (d) Hyperopia

(xi) Rubur means…….
(a) Redness (b) Swelling
(c) Tumor (d) Pain

(xii) lteration in urine volume to > 400 ml/day is known as …….
(a) Oliguria (b) Non oliguria
(c) Anuria (d) Hyperopia

(xiii) Dolor means…….
(a) Redness (b) Swelling
(c) Tumor (d) Pain

(xiv) Alteration in urine volume to < 50 ml/day is known as …….
(a) Oliguria (b) Non oliguria
(c) Anuria (d) Hyperuria

(xv) The parameter which can describe the blood sugar level over a period of 3 months is
(a) Fasting sugar (b) Post-prandial sugar
(c) Random sugar (d) Glycosylated hemoglobin

(xvi) Pathogenesis of bronchial asthma involves development of
(a) Deficiency of α-1 antitrypsin
(b) Airway damage
(c) IgE- sensitized mast cells
(d) Ciliary paralysis

(xvii) ……..change in reversible injury is also known as glassy change.
(a) Hyaline (b) Fibrinoid
(c) Hydropic (d) Fatty

(xviii) Loss of appetite is known as
(a) Insomnia (b) Nausea
(c) Anorexia (d) Alopecia

(ixx) A sudden rise in blood pressure above 200/140 mmHg is termed as
(a) Pre-hypertension (b) Malignant hypertension
(c) Benign Hypertension (d) Isolated systolic hypertension

(xx) The condition in which urine production is decreased below 500 ml per day is called as
(a) Polyuria (b) Oligouria
(c) Anuria (d) Ketouria

Part-C

Short answer questions [7x5 = 35 Marks]
Note : Attempt any 7 questions. Each question carries 5 marks.

Q.1 Give etiology and pathophysiology of peptic ulcer and jaundice.

Q.2 Explain in detail about classification, etiology and pathogenesis of cancer.

Q.3 Write a detail note on acute and chronic renal failure.

Q.4 Write in detail about pathogenesis and mode of transmission of AIDS.

Q.5 Write A note on Typhoid.

Q.6 What is Alcoholic liver disease.

Q.7 Explain inflammatory bowel disease.

Q.8 Explain disorders of sex hormones.

Part-C

Long answer questions. [2x10 = 20 Marks]
Note: Attempt any two questions. Each question carries 10 marks.

Q.1 Elaborate on various types, etiology, pathogenesis and symptoms of asthma.

Q.2 Describe the pathophysiology and symptoms of Parkinson's disease. Write a note on different types of gout.

Q.3 Discuss the pathophysiology and morphogenesis of cell injury. Briefly discuss the tissue repair process in inflammation.