QP Code: 1435

JSS UNIVERSITY, MYSURU

Second Semester - B Pharm (SS) - Examination May 2016

Subject: Human Anatomy and Physiology- II

Time: 3 hours **Max. Marks: 75**

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

Section A: Multiple Choice Questions	20 Marks
Section B: Long Essay	20 Marks
Section C: Short Essay	35 Marks

Section A

Note:

1. Answer ALL the questions in the OMR Sheet given by using BLACK/BLUE BALL POINT PEN ONLY
2. Choose the ONE CORRECT ANSWER from the 4 choices given for each question.
3. Maximum time for answering Section – A is 20 minutes.
4. At the end of 20 minutes, submit the OMR sheet to the Invigilator.

Multiple Choice Questions **20 x 1 = 20 Marks**

1 Which of the following white blood cells is capable of phagocytosis?
   a) Basophil
   b) Eosinophil
   c) Lymphocyte
   d) Neutrophil

2 The formation of a blood clot is known as:
   a) Coagulation
   b) Chemotaxis
   c) Leucopoiesis
   d) Erythropoiesis

3 An increased white blood cell count is indicative of which disease?
   a) Lupus
   b) Leukaemia
   c) Anaemia
   d) Melanoma

4 Branches of lymph capillaries inside villi of intestine are termed as:
   a) Lymph nodes
   b) Lymph duct
   c) Thoracic lymph duct
   d) Lacteals

5 The lining of the inner walls of the heart's chambers is termed the:

a) Epicardium

b) Myocardium

c) Endocardium

d) Pericardium

6 If the heart's SA node fails to fire, then:

a) No blood would enter the atria

b) No blood wound enter the ventricles

c) AV node will act as a secondary pacemaker

d) Bundle of His will act as a secondary pacemaker

7 The exchange of gases and nutrients between blood and tissues is a major function of:

a) Arterioles

b) Arteries

c) Capillaries

d) Veins

8 Blood returning to the heart from the inferior vena cava would enter the:

a) Left atrium

b) Right atrium

c) Left ventricles

d) Right ventricles

9 Aggregates of lymphoid tissue present in the distal portion of the small intestine are known as:

a) Villi

b) Peyer's patches

c) Rugae

d) Choroid plexus

10 Which artery supplies the stomach with oxygenated blood?

a) Carotid artery

b) Gastric artery

c) Celiac artery

d) Cephalic artery

11 Name the hormone that stimulates the secretion of gastric juice:

a) Renin

b) Enterokinase

c) Enterogastrone

d) Gastrin

12 The lowermost portion of the pharynx is the:

a) Oropharynx

b) Nasopharynx

c) Laryngopharynx

d) Pharyngeal tonsils

13 The exchange of gases between inhaled air and blood is referred as:

a) Cellular respiration

b) External respiration

c) Internal respiration

d) Circulatory respiration

14 What is the average glomerular filtration rate?

a) 1 ml per minute

b) 1500 ml per day

c) 10 L per day

d) 180 L per day

15 Most of the tubular reabsorption occurs at the:

a) Loop of henle

b) Distal convoluted tubule

c) Proximal convoluted tubule

d) Glomerulus

16 The renal corpuscle is comprised of a glomerulus and _____

a) Proximal convoluted tubule

b) Bowman's capsule

c) Loop of Henle

d) Distal convoluted tubule

17 In meiosis, recombination occurs in:

a) Metaphase I

b) Prophase I

c) Metaphase II

d) Prophase II

18 The cells of testes which secrete male reproductive hormones are:

a) Seminiferous tubules

b) Sustentacular cells

c) Interstitial cells

d) Efferent ductile

19 Approximately how long does it take for a spermatocyte to complete its differentiation into a spermatozoan in the testis?

a) 7 months

b) 70 days

c) 7 days

d) 70 hours

20 The female gonads are called as:

a) Oocytes

b) Ova

c) Oviducts

d) Ovaries

Section B

ESSAY (Answer any two questions) **2x10= 20 Marks**

1 Define blood group. Explain in detail the ABO system of blood grouping. Add a note on blood transfusion and its significance. (2+4+4)

2 Define blood pressure. Explain in detail the hormonal regulation of blood pressure. (2+8)

3 Explain in detail the mechanics and mechanism of respiration.

Section C

SHORT NOTES (Answer any seven questions) **7x5= 35 Marks**

4 Functions of lymphatic system.

5 Structure and functions of artery.

6 Digestion and absorption of fats.

7 Artificial respiration.

8 Acid base balance.

9 Factors affecting glomerular filtration.

10 Menstrual cycle.

11 Role of testosterone.

12 Genetic pattern of inheritance.

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JSS UNIVERSITY, MYSURU

Second Semester - B. Pharm (SS) - Examination May 2016

Subject: Pharmaceutical Organic Chemistry - I

Time: 3 hours **Max. Marks: 75**

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

Section A: Multiple Choice Questions	20 Marks
Section B: Long Essay	20 Marks
Section C: Short Essay	35 Marks

Section A

Note:

1. Answer ALL the questions in the OMR Sheet given by using BLACK/BLUE BALL POINT PEN ONLY
2. Choose the ONE CORRECT ANSWER from the 4 choices given for each question.
3. Maximum time for answering Section – A is 20 minutes.
4. At the end of 20 minutes, submit the OMR sheet to the Invigilator.

Multiple Choice Questions **20 x 1 = 20 Marks**

1 Which of the following statements regarding the E2 mechanism is wrong?
   a) Reactions are unimolecular in the rate-determining step
   b) Reactions are generally first order
   c) Reaction mechanism usually occur in one step
   d) Reactions are multi-step reactions

2 Diel's alder reaction is:
   a) [2+2]-cyclo addition reaction
   b) [4+1]-cyclo addition reaction
   c) [4+2]-cyclo addition reaction
   d) [2+6]-cyclo addition reaction

3 What is anti-Markovnikov addition?
   a) Hydrogen bromide is added to unsymmetrical alkenes in the presence of peroxide
   b) Hydrogen bromide is added to symmetrical alkenes in the presence of peroxide
   c) Hydrogen bromide is added to unsymmetrical alkanes in the presence of peroxide
   d) Hydrogen bromide is added to unsymmetrical alkynes in the presence of peroxide

4 Ozonolysis is:
   a) Carbon-nitrogen single bonds cleaved with ozone
   b) Carbon-carbon double bonds cleaved with ozone
   c) Carbon- oxygen double bonds cleaved with ozone
   d) Carbon- sulfur double bonds cleaved with ozone

5 Which of the following alkyl halides is most likely to undergo rearrangement in SN1 reaction?

a) 3-bromopentane

b) 2-chloro-3,3-dimethylpentane

c) 3-chloropentane

d) Bromocyclohexane

6 Leaving group in nucleophilic substitution reaction is:

a) Highly basic

b) Weakly basic

c) Weakly acidic

d) Highly acidic

7 The number of molecules taking part in the rate determining step is called:

a) Order of reaction

b) Rate of reaction

c) Mole of reaction

d) Extent of reaction

8 Which among the following is not a good leaving group?

a) HSO_4^-

b) Cl^-

c) OH^-

d) Br^-

9 Aldol condensation is:

a) Nucleophilic addition to alkene compounds

b) Nucleophilic addition to alkyne compounds

c) Nucleophilic addition to carbonyl compounds

d) Nucleophilic addition to alkane compounds

10 Aldehydes containing no alpha hydrogen undergo _____ reaction:

a) Aldol condensation

b) Cannizzaro reaction

c) Diels-Alder reaction

d) Perkin condensation

11 Cannizzaro reaction is not given by:

a) Trimethyl acetaldehyde

b) Formaldehyde

c) Benzaldehyde

d) Acetaldehyde

12 Sodium acetate catalysed condensation of aromatic aldehyde and aliphatic acid anhydride to form an β-unsaturated aromatic acid is called:

a) Baeyer-Villiger oxidation

b) Benzoin condensation

c) Claisen rearrangement

d) Perkin condensation

13 A strong base can abstract an α-hydrogen from:

a) Amine

b) Alkane

c) Alkene

d) Ketone

14 Aspirin is known as:

a) Acetyl salicylic acid

b) Benzoyl salicylic acid

c) Acetyl chlorobenzoic acid

d) Anthranilic acid

15 Positive inductive effect is shown by:

a) NO_2

b) Cl

c) Br

d) CH_3

16 Negative inductive effect is shown by:

a) CH_3

b) H

c) Cl

d) C_2H_5

17 IUPAC name of acetone is:

a) Propanone

b) Propanal

c) Propanol

d) Propene

18 IUPAC name of acetic acid is:

a) Propanoic acid

b) Butanoic acid

c) Ethanoic acid

d) Pentanoic acid

19 The IUPAC name of benzaldehyde is:

a) Benzenecarbaldehyde phenylmethanol

b) Benzenecarbaldehyde phenylmethanal

c) Benzenecarbaldehyde phenylethnal

d) Benzenecarbaldehyde phenylethylmethanal

20 Consider the molecular formula C_7H_7Cl. How many different isomers you could make depending on the position of the chlorine atom?

a) 2

b) 3

c) 4

d) 5

Section B

ESSAY (Answer any two questions) **2 x 10= 20 Marks**

1 Describe the mechanism of E1 and E2 reactions. Explain Saytzeff's orientation. (6+4)

2 Explain the stereochemistry of SN1 and SN1 reaction and add a note on rearrangements of carbocation. (6+4)

3 Write pharmaceutical applications and the mechanisms of Perkin and benzoin condensation.

Section C

SHORT NOTES (Answer any seven questions) **7x5= 35 Marks**

4 Write the structure and uses of tetrachloroethylene, dichloromethane, iodoform, ethyl chloride and chloroform.

5 Explain structural isomerism with suitable examples.

6 Write the qualitative tests for esters.

7 Write a note on crossed aldol condensation.

8 Describe ozonolysis with suitable examples.

9 What is inductive effect? Write two uses each of benzoic acid, benzyl benzoate and amphetamine.

10 Write the qualitative tests and uses of ethanolamine.

11 Mention the general IUPAC rules for naming of alkenes.

12 Write a note on acidity of carboxylic acids. Give structures of succinic acid, tartaric acid and lactic acid.

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JSS UNIVERSITY, MYSURU

Second Semester - B. Pharm (SS) - Examination May 2016

Subject: Biochemistry

Time: 3 hours **Max. Marks:** 75

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Section A: Multiple Choice Questions	20 Marks
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Section A

Note:

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Multiple Choice Questions **20 x 1 = 20 Marks**

1 A holoenzyme is:
- a) Functional unit
- b) Apo-enzyme
- c) Coenzyme
- d) All of these

2 Coenzymes are:
- a) Heat stable, dialyzable, non protein organic molecules
- b) Soluble, colloidal, protein molecules
- c) Structural analogue of enzymes
- d) Different forms of enzymes

3 The kinetic effect of purely competitive inhibitor of an enzymes:
- a) Increases Km without affecting Vmax
- b) Decreases Km without affecting Vmax
- c) Increases Vmax without affecting Km
- d) Decreases Vmax without affecting Km

4 In reversible non-competitive enzyme activity inhibition:
- a) Inhibitor bears structural resemblance to substrate
- b) Inhibitor lowers the maximum velocity
- c) Km is increased
- d) Km is decreased

5 RNA does not contain:

a) Uracil

b) Adenine

c) Thymine

d) Ribose

6 The sugar moiety present in RNA is:

a) Ribulose

b) Arabinose

c) Ribose

d) Deoxyribose

7 Double helical structure model of the DNA was proposed by:

a) Pauling and Corey

b) Peter Mitchell

c) Watson and Crick

d) King and Wooten

8 Translation results in a product known as:

a) Protein

b) tRNA

c) mRNA

d) rRNA

9 Ketone bodies are synthesized in:

a) Adipose tissue

b) Liver

c) Muscles

d) Brain

10 Oxidation of fatty acids occurs:

a) In the cytosol

b) In the matrix of mitochondria

c) On inner mitochondrial membrane

d) On the microsomes

11 In β-Oxidation of fatty acids, which of the following are utilized as coenzymes?

a) NAD+ and NADP+

b) FADH2 and NADH + H+

c) FAD and FMN

d) FAD and NAD+

12 De novo synthesis of fatty acids occurs in:

a) Cytosol

b) Mitochondria

c) Microsomes

d) Golgi apparatus

13 The following is an enzyme required for glycolysis:

a) Pyruvate kinase

b) Pyruvate carboxylase

c) Glucose-6-phosphatase

d) Glycerokinase

14 Our body can get pentoses from:

a) Glycolytic pathway

b) Uronic acid pathway

c) TCA cycle

d) HMP shunt

15 The enzyme required for the hexose monophosphate shunt pathway is:

a) Glucose-6-phosphatase

b) Phosphorylase

c) Aldolase

d) Glucose-6-phosphate dehydrogenase

16 The formation of citrate from oxalo-acetate and acetyl CoA is:

a) Oxidation

b) Reduction

c) Condensation

d) Hydrolysis

17 The phenomenon of osmosis is opposite to that of:

a) Diffusion

b) Effusion

c) Affusion

d) Coagulation

18 Which one is the heaviest particulate component of the cell?

a) Nucleus

b) Mitochondria

c) Cytoplasm

d) Golgi apparatus