DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Summer 2022

Course: B. Pharmacy | Sem: II

Subject Name: HUMAN ANATOMY AND PHYSIOLOGY-II | Subject Code: BP201T

Max Marks: 75 | Date: 25/08/2022 | Duration: 3.45 Hr.

Instructions –

1. **All questions are compulsory**
2. **Answers to MCQs should be written in full sentences**
3. **Draw diagrams / figures wherever necessary**
4. **Figures to right indicate full marks**

Q. 1. Multiple Choice Questions (MCQs) = 20 x 1 = 20 (All the questions are compulsory)

i) The alpha cells of Islets of Langerhans secretes

a. Glycogen b. Insulin

c. Glucose d. Glucagon

ii)Bolus will be converted into chyme when it_____

a. Mix with saliva b. Mix with gastric juice

c. Mix with amylase C. Mix with intestinal juice

iii)What is the major function of large intestine

a. Absorption of food b. Absorption of water

c. Microbial activity d. Propulsive activity

iv)Sinusoid is the space present between

a. Two cells b. Two lobes

c. Two plates d. Cells within plate

v)Trypsinogen is converted into trypsin in the presence of

a. Enterokinase b.Gastric lipase

c. Enteric lipase d. Trypsinase

vi)"Cerebral aqueduct" is present between

a.Two lateral ventricles

b.Lateral ventricle and third ventricle

c.Third ventricle and fourth ventricle

d.Fourth and fifth ventricle

vii)When individual is lying on side, what will be the pressure of CSF?

a. 10 cm of water

b. 20 cm of water

c. 30 cm of water

d. 40 cm of water

viii)Unipolar neuron contains

a.One dendrite and one axon

b. One dendrite or one axon

c Only dendrite

d.Only axon

ix)Which of the following is major neurotransmitter present in sympathetic nervous system?

a. Adrenaline

b. Nor-adrenaline

c. Dopamine

d. Acetylcholine

x)Fallopian tube is also known as

a.Uterine tube

b.Non-uterine tube

c.Oviducts

d.Both a and c

xi)Vital capacity is the sum of

a. Inspiratory reserve volume + Expiratory reserve volume

b. Inspiratory reserve volume + Expiratory reserve volume + Residual volume

c. Inspiratory reserve volume + Residual volume

d. Inspiratory reserve volume + Expiratory reserve volume + Tidal volume

xii)Transcription means

a. Conversion of DNA to Protein

b. Conversion of DNA to m-RNA

c. Conversion of m-RNA to Protein

d. Conversion of m-RNA to DNA

xiii)Which of the process is involve in biosynthesis of ATP?

a. Substrate level phosphorylation

b. Oxidative phosphorylation

c. Photophosphorylation

d. All of the above

xiv)Progesterone is secreted from

a. Endometrium b. Myometrium

c. Corpus luteum d. Corpus albicans

xv)Micturition process is controlled by

a. Voluntary nerves b. In-voluntary nerves

c. Both a and b d. None of the above

xvi)Which of the following is the secondary messenger?

a. c-AMP b. G-Protein

c. d-ATP d. c-RNA

xvii) Capillary hydrostatic pressure during filtration is built in the glomerulus as

a. size of Bowman's capsule is significantly large

b. an afferent arteriole is narrow compared to efferent

c. Bowman's capsule is cup-shaped

d. an efferent arteriole is narrow compared to afferent

xviii)Which of the following changes occur in diaphragm and intercostal muscles during expiration

a.Internal intercostal muscles relax and diaphragm contracts

b. External intercostal muscles relax and diaphragm contracts

c.Internal intercostal muscles contract and diaphragm relax

d. Internal intercostal muscles relax and diaphragm relax

xix) Hypersecretion of human growth hormone leads to

a. Dwarfism b. Gigantism

c. Acromegaly d. Both b and c

xx) The secretion of several anterior pituitary hormones are governed by other hormones from

a. Hypothalamus b. Thyroid gland

c. Adrenal gland d. Pancreatic lobes

Q. 2. Long Answers) = 2 x 10 = 20 (Answer 2 out of 3)

i)Enlist all the organs of digestive system. Write a detail note on small intestine.

ii)Draw neat labelled diagram of neuron and explain the neurophysiology.

iii)Explain in detail physiology of urine formation.

Q. 3. Short Answers = 7 x 5 = 35 (Answer 7 out of 9)

i)Describe the different roles of ATP.

ii)Write a note on meninges.

iii)Explain RAAS Pathway.

iv)Write a note on posterior pituitary gland.

v)Discuss the different phases of menstrual cycle.

vi)Write a note on blood glucose regulation.

vii) Explain different types of lung volumes and capacities.

viii)Draw the neat labelled diagram of sperm and shortly explain spermatogenesis.

ix)Discuss the translation process.

------END OF THE PAPER------

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Summer 2022

Course: B. Pharmacy **Sem: II**

Subject Name: Pharmaceutical Organic Chemistry I **Subject Code: BP202T**

Max Marks: 75 **Date:29/08/2022** **Duration: 3.45 Hr.**

Instructions –

1. All questions are compulsory
2. Answers to MCQs should be written in full sentences
3. Draw diagrams / figures wherever necessary
4. Figures to right indicate full marks

Q. 1. Solve the following Multiple Choice Questions (MCQs) = 20 x 1 = 20 (All questions are compulsory)

i) The IUPAC name of the compound Cl-CH_2-CH_2-CH_2-OH is……

a) 1-chloropropanal b) 3-chloropropanol

c) 3- chloropropane d) 1-chloropropanone

ii) Halogenation of alkanes takes place by ..... mechanism.

a) free radical b) carbanion

c) carbocation d) none of these

iii) In elimination reaction of alkyl halides, the major product is that alkene in which double bond is more highly substituted, is the ……

a) Markovnikov's rule b) Hoffman rule

c) Saytzeff rule d) Antimarkovnikov's rule

iv) The elimination reaction in which rate depends upon concentration of both substrate and base is ……

a) E1 reaction b) E2 reaction

c) SN1 d) none of these

v) In addition of hydrogen halides to alkenes, peroxide effect is observed for …..

a) HCl b) HBr

c) HI d) all of the above

vi) At low temperature addition to conjugated diene gives ……

a) 1,1 addition b) 1,2 addition

c) 1,3 addition

d) 1,4 addition

vii) Which of the following is not a nucleophile?

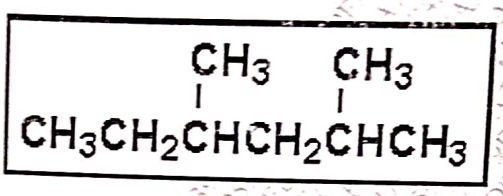
a) $C_2H_5O^-$

b) SCN^-

c) OH^-

d) CH_3^-

viii) Select the correct IUPAC name for



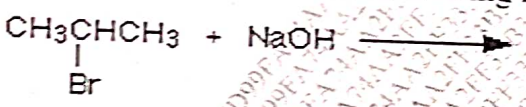
a) 1,1,3-trimethylpentane

b) 2,4-dimethylhexane

c) 3,5-dimethylhexane

d) 3,5,5-trimethylpentane

ix) What is the substitution product of the following reaction?



a) 2-propanol

b) ethanol

c) 1-propanol

d) propane

x) The nucleophilic substitution reaction in which rate of reaction depends upon concentration of only one reactant and rearrangement is possible is known as .....

a) E1 reaction

b) SN1 reaction

c) E2 reaction

d) SN2 reaction

xi) Lucas test is used to distinguish different types of .....

a) alcohols

b) aldehydes

c) ketones

d) amines

xii) Reduction of aldehyde gives .....

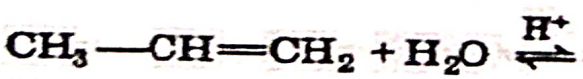
a) Primary alcohol

b) Secondary alcohol

c) Tertiary alcohol

d) Carboxylic acid

xiii) The major product of the following reaction is .....



a)1-propanol

b) 2-propanol

c) Propyne

d) Isopropyl chloride

xiv) Reduction of ketone gives .....

a) primary alcohol b) secondary alcohol

c) tertiary alcohol d) carboxylic acid

xv) Addition of water to aldehyde gives.....

a) acetal b) hydrate

c) cyanohydrin d) oxime

xvi) A mixture of benzaldehyde and formaldehyde on heating with aqueous NaOH solution gives

a) benzyl alcohol + sodium formate b) sodium benzoate + methanol

c) benzyl alcohol + methanol d) sodium benzoate + sodium formate

xvii) The reaction of carboxylic acids with alcohols catalyzed by conc. H_2SO_4 is called ___

a) Dehydration b) Saponification

c) Esterification d) Neutralization

xviii) Primary amines can be distinguished from secondary and tertiary amines by reacting with which of the following?

a) Chloroform and alcoholic KOH b) Methyl iodide

c) Chloroform alone d) Zinc dust

xix) n-pentane, isopentane and neopentane are .....

a) functional isomers b) Metamers

c) chain isomers d) tautomers

xx) The Hinsberg reagent is .....

a) benzenesulphonyl chloride b) diethyl oxalate

c) zinc chloride d) none of these

Q. 2. Solve the following questions. = 2 x 10 = 20 (Answer 2 out of 3)

i) What is β – elimination? Explain the mechanism and orientation of E1 reaction. Compare between E1 and E2 reaction.

ii) Explain the mechanism and stereochemistry of SN2 reaction. Add a note on factors affecting SN2 reaction.

iii) Explain, why Aldehydes and ketones are susceptible for nucleophilic addition reactions? Give any two methods for preparation of aldehydes. Write a note on Perkin reaction.

Q. 3. Answer the following questions. = 7 x 5 = 35 (Answer 7 out of 9)

i) Explain the different types of structural isomerism with examples.

ii) Explain the mechanism of halogenation of alkanes.

iii) Explain the qualitative tests for alcohols.

iv) Explain the addition of water and alcohol to aldehydes.

v) Arrange the following compounds in order of increasing acidity and justify your answer.
Chloroacetic acid, formic acid, acetic acid, dichloroacetic acid.

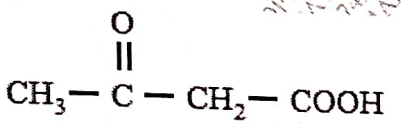
vi) Give the structure and uses of acetic acid, lactic acid, formaldehyde, glycerol, ethyl alcohol and dichloromethane

vii) Explain why aliphatic amines are more basic than ammonia.

viii) Write a note on Ozonolysis and Diel-alder reaction.

ix) Give the IUPAC names of following compounds.

a)



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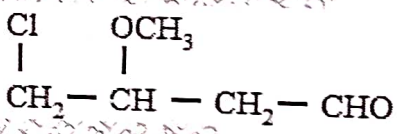

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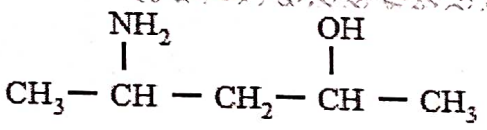

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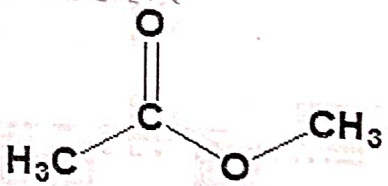

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DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Summer 2022

Course: B. Pharmacy **Sem: II**

Subject Name: Biochemistry **Subject Code: BP203T**

Max Marks: 75 **Date:05/09/2022** **Duration: 3.45 Hr.**

Instructions –

1. **All questions are compulsory**
2. **Answers to MCQs should be written in full sentences**
3. **Draw diagrams / figures wherever necessary**
4. **Figures to right indicate full marks**

Q. 1. Multiple Choice Questions (MCQs) = 20 x 1 = 20 (All the questions are compulsory)

i. _____enzymes that catalyze the transfer of functional groups.

a) Transferases b) Hydrolases

c) Oxidoreductase d) Lysases

ii. The two monosaccharides differ from each other in their configuration around a single specific carbon atom, they are referred to as _____ of each other.

a) Tautomer b) Epimer

c) Enantiomer d) Anomer

iii. Polysaccharides are _____.

a) Oils b) Proteins

c) Fats d) Polymers

iv. Which one of the following amino acids contains imino group?

a) Tryptophan b) Tyrosine

c) Proline d) Leucine

v. The cyclopentanoperhydrophenanthrene ring is present in _____.

a) Cholesterol b) Cetyl alcohol

c) Melatonin d) All of the above

vi. A positive Benedict's test is NOT given by _____?

a) Lactose b) Sucrose

c) Maltose d) Glucose

vii. The conversion of alanine to glucose is termed as _____.

a) Glycolysis b) Transformation

c) Glycogenesis d) Gluconeogenesis

viii. Pentose phosphate pathway generating two important products _____.

a) Pentose sugar and NADPH b) Pentose sugar and NADH

c) Pentose sugars and erythrose sugars d) Pentose sugars and sedoheptulose

ix. The enzyme _____ deficiency is associated with resistance to malaria.

a) Glucose-6-Phosphate dehydrogenase b) Glucose-6-Phosphate hydrogenase

c) Glucose-5-Phosphate dehydrogenase d) Glucose-5-Phosphate hydrogenase

x. Obesity is accumulation of _____ in the body.

a) Water b) NaCl

c) Fat d) Protein

xi. Waxes contain higher alcohols named as_____.

a) Methyl b) Ethyl

c) Heptyl d) Cetyl

xii. The Enzyme _____ is responsible for black urine disease.

a) Homogentisate oxidase b) Phenylalanine hydroxylase

c)Tyrosine transaminase d) Carboxylase

xiii. The transfer of an amino (NH_2) group from an amino acid to a keto acid is known as_____.

a) Transformation b) Transition

c) Transamination d) Deamination

xiv. In RNA, the complementary base of adenine is _____

a) Cytosine b) Uracil

c) Guanine d) Thymine

xv. All are the codons stop the signal in protein synthesis except_____.

a) UAA b) UAG

c) UAC d) UGA

xvi. The enzyme primase in association with single-stranded binding proteins forms a complex and produces _____.

a) RNA primer b) RNA polymer

c) DNA primer d) DNA polymer

xvii. Enzymes lose the catalytic activity at temperature above 70 °C due to _____.

a) Deregulation b) Disturbance

c) Distortion d) Denaturation

xviii. The reaction given by two or more peptide linkages is _____.

a) Biuret test b) Ninhydrin test

c) Xanthoproteic test d) Pauley's test

xix. The enzyme _____ is used in the treatment of leukemias.

a) Asparaginase b) Streptokinase

c) Fructokinase d) Hydrogenase

xx. The functional unit of enzyme is known as_____.

a) Apoenzyme b) Coenzyme

c) Holoenzyme d) Monomeric enzyme

Q. 2. Long Answers = 2 x 10 = 20 (Answer 2 out of 3)

i. Explain in detail β-oxidation of palmitic acid along with the energetics.

ii. Define enzyme inhibitors and discuss the different types of enzyme inhibitors.

iii. Describe the TCA cycle and explain the reaction involved in it with energetics.

Q. 3. Short Answers = 7 x 5 = 35 (Answer 7 out of 9)

i. Draw the following Structures
a) Glucose b) Tryptophan c) Tyrosine d) Adenine e) Dihydroxy acetone

ii. Describe the classification of proteins based on their chemical nature with suitable example.

iii. Define the glycolysis and explain the pathway for glycolysis.

iv. Give brief account on biological significance and biosynthesis of adrenaline and nor-adrenaline.

v. Explain in detail pathway of ornithine cycle.

vi. Write a note on formation and utilization ketone bodies

vii. Differentiate between DNA & RNA. Enlist the enzyme involve in DNA replication.

viii. Define transcription and translation and discuss the inhibitors of protein synthesis.

ix. Define and Classify enzyme as per IUB system with example.

------END OF THE PAPER------

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination – Summer 2022

Course: B. Pharmacy | Sem: II

Subject Name: Pathophysiology | Subject Code: BP 204T

Max Marks: 75 | Date: 07/09/2022 | Duration: 3.45 Hrs

Instructions –

1. **All questions are compulsory**
2. **Answers to MCQs should be written in full sentences**
3. **Draw diagrams / figures wherever necessary**
4. **Figures to right indicate full marks**

Q. 1. Multiple Choice Questions (MCQs) = 20 x 1 = 20 (All the questions are compulsory)

i) Deficiency of which clotting factor causes hemophilia A?

a) VII b) VIII

c) IX d) X

ii) Which type of diabetes generally occurs at juvenile age?

a) Type I b) Type II

c) Type III d) Type IV

iii) Which of the following can trigger atherosclerosis?

a) High blood pressure b) High levels of cholesterol

c) Smoking d) All of above

iv) Which disease is characterized by deficiency of dopamine?

a) Alzheimers disease b) Parkinson's disease

c) Schizophrenia d) None of these

v) Gout is a metabolic disorder characterized by elevated level of

a) Serum cholesterol b) Serum bilirubin

c) Serum uric acid d) None

vi) Low level of oxygen in blood is called as

A) Anaemia b) Anorexia

c) Hypoxia d) Hypercapnia

vii) Loss of appetite is known as

a) Insomnia b) Anorexia

c) Alopecia d) Nausea

viii) CHF occurs due to

a) Intrinsic pump failure b) Increased workload on the heart

c) Impaired filling of cardiac chamber d) All of these

ix) Which organ is majorly affected by hepatitis

a) Liver b) Heart

c) kidney d) brain

x) The term arthritis refers to

a) Stiffnes in joint b) inflammation in joints

c) Accute pain in joint d) None of these

xi) Programmed cell death known as

a) Cytolysis b) Apoptosis

c) Necrosis d) Proptosis

xii) Treatment of renal failure includes

a) Dialysis b) Diuretics

c) Both d) None

xiii) Meningitis is refer to

a) Inflammation of the brain b) Blockage in nerves

c) Both A & B d) None of these

xiv) Megaloblastic anaemia is caused by

a) Iron deficiency b) impaired DNA synthesis

c) Calcium deficiency d) oxygen deficiency

xv) Which type of hypertension has no identifiable medical cause?

a) Primary b) Secondary

c) Both d) None

xvi) The causative organism for Typhoid is

a) Salmonella typhi b) Mycobacterium Leprae

c) Mycobacterium Tuberculosis d) Clostridium perfringes

xvii) HIV attacks a certain kind of cell in the immune system……

a) RBC b) WBC

c) Platelets d) All

xviii) Cancer of the blood cell is referred to as

a) Kaposi sarcoma b) Basal cell carcinoma

c) Mesothelioma d) Leukamia

xix) Ischemic heart disease includes

a) Angina pectoris b) Atherosclerosis

c) Both a and b d) None

xx) Modes of transmission of AIDS

a) Sexual contact b) infected needle

c) Infected blood d) All of these

Q. 2. Long Answers) = 2 x 10 = 20 (Answer 2 out of 3)

i) Explain the pathophysiology of diabetes mellitus

ii) What is cellular adaptation? Explain different types of cellular adaptations with their causes.

iii) What is cancer? Give its classification, etiology, pathogenesis & treatment.

Q. 3. Short Answers = 7 x 5 = 35 (Answer 7 out of 9)

i) Explain the etiology and pathogenesis of Jaundice.

ii) What are the clinical manifestations and treatment of Parkinson's disease?

iii) Explain components & types of feedback system.

iv) Define hypertension. Give its etiology & pathogenesis.

v) Write a note on etiology, clinical manifestation & treatment of asthma.

vi) Define AIDS. Give its modes of transmission & prevention.

vii) Discuss the pathogenesis & clinical manifestation of rheumatoid arthritis.

viii) Give the causes, pathogenesis & treatment of leprosy.

ix) Explain the etiology & pathogenesis of peptic ulcer.

------END OF THE PAPER------

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination –Summer 2022

Course:B. Pharmacy **Sem:**II

Subject Name: Computer Applications in Pharmacy **SubjectCode:** BP205T

Max Marks: 50 **Date:** 12/09/2022 **Dutation:** 2 Hr.

Q. 2. Long Answers = 2 x 10=20 (Answer 2 out of 3)

1. Define the number system & explain its types with examples.
2. What is project planning ?what are the steps of project development process.
3. How a pharmacy drug database can be designed?

Q. 2. Short Answers = 6 x 5=30 (Answer 6 out of 8)

1. What is binary number system?
2. What are the various phases of the process life-cycle?
3. What are the features of programming languages?
4. What are the characteristics of database?
5. How computers are used in hospital and clinical pharmacy?
6. Write a note on applications of CAD.
7. Discuss the objectives of bioinformatics.
8. List the different types of LIMS.

---------End of the paper--------

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

End Semester Examination –Summer 2022

Course: B. Pharmacy **Sem:** II

Subject Name: Environmental Sciences **Subject Code:** BP206T

Max Marks: 50 **Date:** 13/09/2022 **Dutation:** 2 Hr.

Q. 2. Long Answers = 2 x 10=20 (Answer 2 out of 3)

1. Explain the environmental studies challenges.
2. Write a brief note on "energy flow in the ecosystem".
3. Discuss the fundamentals of sustainable development.

Q. 2. Short Answers = 6 x 5=30 (Answer 6 out of 8)

1. What is noise pollution? Elucidate effects of noise pollution.
2. How thermal pollution is caused? Discuss.
3. Elucidate the objectives of sustainable development.
4. What is food chain? State its importance.
5. Enumerate the different types of grassland ecosystem.
6. Write a note on water crisis.
7. Discuss the effects of mining on water.
8. What is hydroelectric energy? Explain.

---------End of the paper--------