

**Subject: Biochemistry**

**Duration: 3 Hrs**

**Year and Sem: F. Y. B. Pharm Sem II**

**Total marks: 80 M**

**N.B.: 1. All questions are compulsory**

**2. Figures to right indicate full marks**

<b>Q. 1</b>	<b>Choose appropriate option for following multiple choice-based questions.</b>	<b>20</b>
<b>1</b>	Which of the following is an aliphatic amino acid with R group containing sulfhydryl group?	
<b>a</b>	Phenyl alanine	
<b>b</b>	lysine	
<b>c</b>	Threonine	
<b>d</b>	cysteine	
<b>2</b>	The process of change in the specific optical rotation representing the interconversion of $\alpha$ and $\beta$ forms of D-glucose to an equilibrium mixture is called as _____.	
<b>a</b>	Mutarotation	
<b>b</b>	Epimerization	
<b>c</b>	Racemization	
<b>d</b>	Inversion	
<b>3</b>	Glucose and mannose are examples of _____.	
<b>a</b>	C4 epimers	
<b>b</b>	C2 epimers	
<b>c</b>	C6 epimers	
<b>d</b>	C1 epimers	
<b>4</b>	The conversion of phosphoenol pyruvate to pyruvate catalysed by enzyme pyruvate kinase resulting in the synthesis of ATP is an example of _____.	
<b>a</b>	Oxidative Phosphorylation	
<b>b</b>	Oxidative dephosphorylation	
<b>c</b>	Substrate level Phosphorylation	
<b>d</b>	Photophosphorylation	
<b>5</b>	_____ is useful in generating pentoses and NADPH, required for the biosynthetic reactions.	
<b>a</b>	HMP shunt	
<b>b</b>	Glycolysis	
<b>c</b>	TCA cycle	
<b>d</b>	Gluconeogenesis	
<b>6</b>	The total ATP yield from oxidation of one mole of acetyl CoA by TCA cycle is ..	
<b>a</b>	8	
<b>b</b>	12	
<b>c</b>	24	
<b>d</b>	16	

<b>7</b>	Which of the following enzyme is common for gluconeogenesis and glycolysis?	
<b>a</b>	Glyceraldehyde-3-phosphate dehydrogenase	
<b>b</b>	Hexokinase	
<b>c</b>	Pyruvate kinase	
<b>d</b>	Pyruvate carboxylase	
<b>8</b>	The reducing equivalents are supplied by _____ in fatty acid biosynthesis.	
<b>a</b>	NADPH	
<b>b</b>	NADH	
<b>c</b>	NAD	
<b>d</b>	FADH <sub>2</sub>	
<b>9</b>	The regulatory step in the synthesis of AMP from IMP is catalyzed by _____.	
<b>a</b>	Glutamine-phosphoribosyl pyrophosphate amido transferase	
<b>b</b>	Adenylosuccinate synthetase	
<b>c</b>	Adenylosuccinate lyase	
<b>d</b>	IMP dehydrogenase	
<b>10</b>	_____ separates the two strands of DNA during replication.	
<b>a</b>	Gyrase	
<b>b</b>	Topoisomerase	
<b>c</b>	Helicase	
<b>d</b>	DNA polymerase	
<b>11</b>	Which of the following work is done by the sigma factor in transcription?	
<b>a</b>	Helicase action	
<b>b</b>	Transcription initiation	
<b>c</b>	Transcription elongation	
<b>d</b>	Transcription termination	
<b>12</b>	Fluorouracil inhibits the activity of _____.	
<b>a</b>	Dihydrofolate reductase	
<b>b</b>	Thymidylate synthase	
<b>c</b>	CTP synthase	
<b>d</b>	Ribonucleotide reductase	
<b>13</b>	_____ is involved in salvage pathway of purines.	
<b>a</b>	Adenine phosphoribosyl transferase	
<b>b</b>	Glutamine- PRPP amidotransferase	
<b>c</b>	IMP dehydrogenase	
<b>d</b>	Uridine-cytidine kinase	

<b>14</b>	The number of ATP molecules formed by $\beta$ -oxidation of one mole of palmitic acid are _____.	
<b>a</b>	126	
<b>b</b>	106	
<b>c</b>	135	
<b>d</b>	108	
<b>15</b>	_____ of the following is the regulatory step of cholesterol biosynthesis.	
<b>a</b>	Formation 3-hydroxy-3-methylglutaryl CoA	
<b>b</b>	Formation of Mevalonate	
<b>c</b>	Formation of Isoprenoid Unit	
<b>d</b>	Formation of acetoacetyl CoA	
<b>16</b>	The accumulation of acetyl CoA in the mitochondria of the liver results in generation of_____.	
<b>a</b>	ATP	
<b>b</b>	Ketone bodies	
<b>c</b>	Free fatty acids	
<b>d</b>	Oxaloacetate	
<b>17</b>	_____ is involved in biosynthesis of dopamine.	
<b>a</b>	Tyrosine hydroxylase	
<b>b</b>	Tyrosinase	
<b>c</b>	Phenylethanolamine N-methyltransferase	
<b>d</b>	Dopamine $\beta$ -hydroxylase	
<b>18</b>	_____ is the link between urea cycle and TCA cycle.	
<b>a</b>	Fumarate	
<b>b</b>	Succinate	
<b>c</b>	$\alpha$ - ketoglutarate	
<b>d</b>	Citrate	
<b>19</b>	_____ catalyses the rearrangement reactions involving atomic grouping without altering molecular weight or number of atoms.	
<b>a</b>	Ligase	
<b>b</b>	Isomerase	
<b>c</b>	Oxidoreductase	
<b>d</b>	Hydrolase	
<b>20</b>	The functional unit of the enzyme is known as _____.	
<b>a</b>	Chiroenzyme	
<b>b</b>	Holoenzyme	
<b>c</b>	Prosthetic group	
<b>d</b>	Monomeric enzyme	

<b>Q. 2 A</b>	<b>Answer any one question.</b>	<b>12</b>
<b>a</b>	<ul style="list-style-type: none"> <li>i) Write a note on Carnitine shuttle.</li> <li>ii) Explain the biosynthesis of noradrenaline with its significance.</li> <li>iii) Give the reactions catalysed by FAS complex in the biosynthesis of fatty acid.</li> </ul>	
<b>b</b>	<ul style="list-style-type: none"> <li>i) Outline TCA cycle with its significance.</li> <li>ii) Give the names and structures of substrate and product for the following enzymes: <ul style="list-style-type: none"> <li>a) Pyruvate dehydrogenase</li> <li>b) Phosphoglycerate kinase</li> <li>c) Lactate dehydrogenase</li> <li>d) Enolase</li> </ul> </li> </ul>	
<b>Q. 2 B</b>	<b>Answer any four questions</b>	<b>48</b>
<b>a</b>	<ul style="list-style-type: none"> <li>i) Explain gluconeogenesis with respect to the names of the intermediates and the enzymes involved in reversal of glycolysis.</li> <li>ii) Describe the various complexes involved in ETC.</li> <li>iii) Discuss deamination and decarboxylation reactions involved in amino acid metabolism.</li> </ul>	
<b>b</b>	<ul style="list-style-type: none"> <li>i) Give the four steps involved in the <math>\beta</math>-oxidation of saturated fatty acid.</li> <li>ii) Explain the formation of ketone bodies.</li> <li>iii) Outline the oxidative phase of HMP shunt and give its significance.</li> </ul>	
<b>c</b>	<ul style="list-style-type: none"> <li>i) Classify carbohydrates and give two examples of disaccharides.</li> <li>ii) Draw the structures of any two acidic amino acids, and explain <math>\alpha</math>-helix structure of protein.</li> <li>iii) Discuss in brief the steps involved in translation.</li> </ul>	
<b>d</b>	<ul style="list-style-type: none"> <li>i) Outline the steps involved in the following <ul style="list-style-type: none"> <li>a) Synthesis of AMP from IMP</li> <li>b) Salvage pathway for purines</li> </ul> </li> <li>ii) Explain in brief about initiation and elongation steps in prokaryotic replication.</li> <li>iii) Define enthalpy and entropy. Discuss the biological role of phospholipids.</li> </ul>	
<b>e</b>	<ul style="list-style-type: none"> <li>i) Draw the structure of ATP and explain enzyme induction and repression.</li> <li>ii) Classify enzymes as per IUB system with suitable examples.</li> <li>iii) Discuss Michaelis Menten plot with respect to reversible enzyme inhibitors.</li> </ul>	

**UNIVERSITY OF MUMBAI**  
**END SEMESTER EXAMINATION AUGUST 2022**

Academic Year 2021-2022  
First Year B. Pharmacy, Semester II  
Subject- Environmental Science

**Date 1/08/2022**

**Time: 11.00 to 1.00 pm**

**Total Marks: 35**

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**Attempt the following question and draw the diagram whenever necessary.**

**Q:I** Attempt any one from following questions.

**5 Marks**

- 1) Define environments. Describe the importance of environment studies. Enlist the renewable and non-renewable resources.
- 2) Comments on Ecological pyramids.

**Q: II** Attempt any three from following questions

**30 Marks**

1. Explain the concept of an ecosystem with their structure and function. Draw an energy flow in the ecosystem.
2. Describe are the consequences of air pollution. Explain the impact of air pollution on human health.
3. Define the term land degradation and give suitable reasons for the same. Explain preventive measures for the same.
4. Define deforestation. Give the reasons for the deforestation. Explain preventive measures for the same.

**Subject: Human Anatomy and Physiology II**

**Duration: 3 Hours**

**N.B: 1. All questions are compulsory**

**2. Figures to right indicate full marks**

**F.Y.B.Pharm, Sem II**

**Total marks: 80M**

**Q1. Choose appropriate option for following multiple choice based questions. 20**

1. Neurons secreting dopamine are present in \_\_\_\_\_.
  - a. Substantia nigra
  - b. Arbor vitae
  - c. Cerebellar peduncles
  - d. Pontine nucleus
  
2. \_\_\_\_\_ cells of stomach secrete pepsinogen and gastric lipase.
  - a. G Cells
  - b. Chief cells
  - c. Parietal cells
  - d. Mucous neck cells
  
3. Each bronchopulmonary segment of the lung has many small compartments called as \_\_\_\_\_.
  - a. Lobules
  - b. Alveoli
  - c. Respiratory bronchioles
  - d. Terminal bronchioles
  
4. \_\_\_\_\_ is the middle and the thickest layer of tissue surrounding each kidney.
  - a. Renal Capsule
  - b. Renal Fascia
  - c. Adipose Capsule
  - d. Renal Medulla
  
5. If you drank a litre of water, what effect would this have on the osmotic pressure of your blood?
  - a. Increase in osmotic pressure
  - b. Decrease in osmotic pressure
  - c. No change in osmotic pressure
  - d. Slight increase in osmotic pressure
  
6. \_\_\_\_\_ is a large, fluid filled follicle that is ready to rupture and expel its secondary oocyte.
  - a. Corpus luteum
  - b. Graafian follicle
  - c. Corpus albicans
  - d. Ovarian follicles
  
7. \_\_\_\_\_ of hypothalamus serves as relay centre for reflexes related to sense of smell.
  - a. Supraoptic region
  - b. Tuberal region
  - c. Mammillary region
  - d. Preoptic region
  
8. \_\_\_\_\_ is the organ that stores, concentrates, and delivers bile into duodenum via common bile duct.

- a. Liver
- b. Gall bladder
- c. Pancreas
- d. Large intestine

9. \_\_\_\_\_ functions in warming, moistening, and filtering air; receives olfactory stimuli; is a resonating chamber for sound.

- a. Nose
- b. Pharynx
- c. Larynx
- d. Epiglottis

10. Which of the following is the correct sequence in which urine flows through the kidney toward the urinary bladder?

- a. Renal pelvis, major calyx, minor calyx, papillary duct, ureter
- b. Papillary duct, minor calyx, major calyx, renal pelvis, ureter
- c. Minor calyx, major calyx, papillary duct, renal pelvis, ureter.
- d. Papillary duct, major calyx, minor calyx, ureter, renal pelvis.

11. \_\_\_\_\_ are involved in formation of blood testis barrier.

- a. Spermatogenic cells
- b. Sertoli cells
- c. Primordial cells
- d. Germinal epithelial cells

12. Which cells produce parathyroid hormone (PTH).

- a. Chief cells
- b. Oxyphil cells
- c. Follicular cells
- d. Parafollicular cells

13. During the \_\_\_\_\_ phase, the negative membrane potential becomes less negative, reaches zero, and then becomes positive.

- a. Repolarizing
- b. Depolarizing
- c. Threshold
- d. Hyperpolarizing

14. \_\_\_\_\_ contribute to sperm motility and viability and may stimulate smooth muscle contractions in the female reproductive tract.

- a. Fructose
- b. Prostaglandins
- c. Clotting proteins
- d. Prostate-specific antigen

15. How much is Inspiratory reserve volume in an average adult male?

- a. 3100 mL
- b. 2100 mL
- c. 1100 mL
- d. 1500 mL

16. \_\_\_\_\_ are the largest and most numerous neuroglia in the CNS.

- a. Oligodendrocytes
- b. Astrocytes
- c. Ependymal cells
- d. Microglia

17. The anterior pituitary (anterior lobe), is also called as \_\_\_\_\_.

- a. Adenohypophysis
- b. Neurohypophysis
- c. Pars nervosa
- d. Pars intermedia

18. Secretion of Human growth hormone is inhibited by \_\_\_\_\_.

- a. FSH
- b. TRH
- c. GHRH
- d. Somatostatin

19. \_\_\_\_\_ is the small molecule inhibitory neurotransmitter in the CNS.

- a. Glutamate
- b. Aspartate
- c. GABA
- d. Substance P

20. A portal triad is composed of \_\_\_\_\_.

- a. bile canaliculi, branch of the hepatic artery and branch of the hepatic vein
- b. bile duct, branch of the hepatic artery and branch of the hepatic vein
- c. bile duct, hepatic sinusoid and branch of the hepatic vein
- d. central vein, branch of the hepatic artery and branch of the hepatic vein

**Q2 A. Answer any ONE question.**

**12**

- a. Explain the formation, composition, and functions of Cerebrospinal fluid, add a note on spinal meninges.
- b. Define Pulmonary ventilation, explain in detail inhalation and exhalation and factors affecting pulmonary ventilation

**Q2 B. Answer any FOUR questions.**

**48**

- a. Explain generation of action potential, and describe circulation of Cerebrospinal fluid.
- b. With the help of neat labelled diagram explain the anatomy and histology of small intestine.
- c. i. Write a note on regulation of respiratory centres.  
ii. Explain in detail the blood supply to the kidney and write a short note on ureters.
- d. Draw a neat labelled diagram of pituitary gland. Write a note on anterior pituitary cells and their hormones.
- e. Draw a neat labelled diagram of histology of ovary. Explain the process of oogenesis.



Subject: Pathophysiology

First Year B. Pharmacy ( SEM-II)(Choice Based) (R-2019)

Duration 3 hours

Total Marks: 80

N.B. 1. All questions are compulsory

2.Figures to the right indicate full marks

Q.1.	Choose appropriate option for following multiple choice based questions	20
1	Clearance of injurious stimuli with replacement of injured cells by normal cells and resuming of normal function is called as _____	
a	Resolution of Injury	
b	Fibrosis	
c	Necrosis	
d	Apoptosis	
2	A purulent exudate, is an inflammatory exudate rich in leukocytes, cell debris and, in many cases, microbes is called as _____	
a	lymph	
b	Transudate	
c	Plural Fluid	
d	Pus	
3	_____ if not scavenged by antioxidant system are harmful to the cell and can lead to cell death.	
a	Adenosine Tri Phosphate	
b	Reactive Oxygen Species	
c	Saturated Lipids	
d	Macromolecular Proteins	
4	Formation of new blood vessels during repair phase is called as _____	
a	Neovascularization	
b	Necrosis	
c	Apoptosis	
d	Resolution of the injury	
5	_____ is irreversible necrosis of heart muscle secondary to prolonged ischemia.	
a	Acute Myocardial Infarction	
b	Hypertension	
c	Hypotension	

d	Atherosclerosis	
6	According to the degree of thickness of ventricular wall involved in myocardial infarction, the infarcts are classified as:	
a	Septal and Lateral	
b	Transmural and Laminar	
c	Anteroseptal and anterolateral	
d	Anterior and Posterior	
7	Which of the following does not cause airway narrowing in an asthma attack	
a	Destruction of airways	
b	Mucus hypersecretion	
c	Airway edema	
d	Bronchospasm	
8	A syndrome in which glomerular filtration declines suddenly and is usually reversible is called as	
a	Renal Calculi	
b	Chronic Renal Failure	
c	Transient Renal Failure	
d	Acute Renal Failure	
9	Polydipsia, polyuria, glucosuria and polyphagia are the clinical signs and symptoms of	
a	Asthma	
b	Angina pectoris	
c	Urinary tract infection	
d	Diabetes Mellitus	
10	In _____ there is damage to substantia nigra and globus pallidus.	
a	Parkinson's disease	
b	Epilepsy	
c	Gout	
d	Peptic Ulcer	
11	Select the appropriate cause of peptic ulcer from the following	
a	Helicobacter pylori	
b	Bicarbonate	
c	Prostaglandin	
d	Mucosal blood flow	
12	Acute cerebral ischemic stroke is characterized by the	

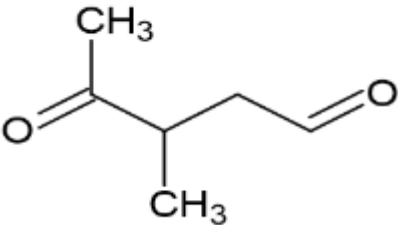
	a	acute infection of brain	
	b	sudden decrease in blood pressure	
	c	sudden increase in brain temperature	
	d	sudden loss of blood circulation to an area of the brain	
13		Jaundice in sickle cell anaemia can be classified under	
	a	Hepatocellular	
	b	Congenital hyperbilirubinemia	
	c	Haemolytic	
	d	Obstructive	
14		A person who suffers from ulcerative colitis for a long period of time is at risk for...	
	a	Colon cancer	
	b	Haemorrhoids	
	c	Faecal incontinence	
	d	Parkinson's disease	
15		Which of these definitions describe osteoporosis?	
	a	Slow progressive degeneration of the articular cartilage	
	b	Inheritable disorder of connective tissue which affects the skeleton, joints, ligaments, teeth, sclerae and skin.	
	c	Reduction in bone mass resulting in increased porosity of skeleton	
	d	Chronic condition of disordered bone remodelling	
16		Which is correct regarding IBD?	
	a	Toxic megacolon occurs Crohn's and Ulcerative colitis	
	b	Risk of developing ulcerative colitis is higher in smokers than non-smokers	
	c	Cobblestone appearance on bowel wall is more characteristic of Crohn disease	
	d	Patients with Crohn disease are more at a risk of colorectal cancer than UC patients	
17		Which of following organ mainly affected in tuberculosis?	
	a	Hypothalamus	
	b	Heart	
	c	Pancreas	
	d	Lungs	
18		Which of the following disease spread by contaminated food and water?	
	a	Addison's disease	
	b	AIDS	
	c	Typhoid	

d	Pancreatitis	
19	Which procedure is most likely used to do test for meningitis?	
a	Spinal tap	
b	Throat culture	
c	Tuberculosis skin test	
d	urine test	
20	Syphilis is a complicated and organized sexually transmitted diseases where the causative agent is	
a	Moulds	
b	Virus	
c	Fungi	
d	Spirochetes	
<b>Q.2 A</b>	<b>Answer any one question</b>	<b>12</b>
a	What are the risk factors for ischemic heart disease? Discuss pathophysiology of myocardial infarction.	
b	What are neurodegenerative disorders? Explain the clinical features and pathophysiology of Parkinson's disease.	
<b>Q.2 B</b>	<b>Answer any four question</b>	<b>48</b>
a	Write a short note on the reactions of blood vessels in acute inflammation and explain the mechanisms of increased vascular permeability.	
b	Explain the signs and symptoms, etiology and pathophysiology of chronic bronchitis.	
c	What is hyperthyroidism? Explain the clinical features and etiopathogenesis of hyperthyroidism.	
d	Enlist types of Jaundice. What are the symptoms and pathogenesis of jaundice?	
e	Discuss causes, types and pathogenesis of urinary tract infections.	

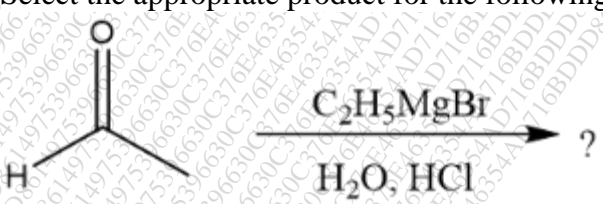
SET II


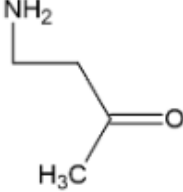

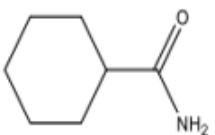
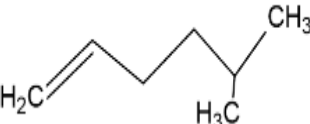
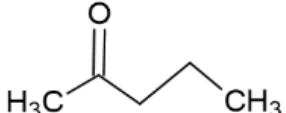
**Subject: Pharmaceutical Organic Chemistry I**    **Year and Sem: First Year SEM-II**  
**Duration: 3 Hours**    **Total marks: 80**  
**Syllabus: CBCS R-2019**

**N.B. : 1. All questions are compulsory**  
**2. Figures to right indicate full marks**

Q. 1	Choose appropriate option for following multiple choice-based questions.	20
1	Which compound is a positional isomer of 1-chloropentane?	
a	CH <sub>3</sub> CH <sub>2</sub> CHCH <sub>2</sub> CH <sub>2</sub> Cl	
b	CH <sub>3</sub> CHCH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> Cl	
c	CH <sub>2</sub> Cl C(CH <sub>3</sub> ) <sub>3</sub> Cl	
d	CH(CH <sub>3</sub> ) <sub>2</sub> CHClCH <sub>3</sub>	
2	Choose the incorrect option regarding isomerism	
a	They differ in both physical and chemical properties	
b	They have different molecular formula	
c	There are two types of isomerism- structural and stereoisomerism	
d	Geometric and optical isomerism are two types of stereoisomerism.	
3	What is the IUPAC Name for the following compound? 	
a	1-Methyl-2-oxobutanal	
b	2-Methyl-3-oxopentanal	
c	3-Methyl-2-oxobutanal	
d	2-Methyl-3-oxobutanal	
4	The reactivity order of alkyl halides in SN <sub>2</sub> mechanisms is	
a	1° > 2° > 3°	
b	2° > 1° > 3°	
c	3° > 1° > 2°	
d	3° > 2° > 1°	
5	Low concentration of nucleophile favours	
a	SN <sub>2</sub> reaction	
b	SN <sub>1</sub> reaction	
c	Both SN <sub>1</sub> and SN <sub>2</sub> reaction	
d	SNE reactions	

6	SN2 mechanism proceeds through the intervention of
a	Free radicals
b	Carbonium ion
C	Transition state
d	Carbanion
7	The most reactive alkyl halide is
a	C2H5F
b	C2H5Br
C	C2H5I
d	C2H5Cl
8	An ideal solvent for SN1 reaction -
a	Polar protic solvent
b	Polar aprotic solvent
C	Non polar solvent
d	Levelling solvent
9	Chlorination of methane to give CCl4 is an example of
a	electrophilic addition
b	free radical substitution
C	nucleophilic addition
d	electrophilic substitution
10	Paraffin waxes are graded by its
a	melting point
b	specific gravity
C	ductility
d	viscosity
11	In the addition of HX to a double bond the hydrogen goes to the carbon that already has more hydrogen is a statement of
a	Hund's rule
b	Markovnikoff's rule
C	Saytzeffs rule
d	Anti Markovniknov's rule
12	Which of the following reacts with HBr in presence of a peroxide to give anti Markovnikoff's product
a	1-butene
b	2,3 dimethyl 2 butene
C	2- butene
d	3 hexene
13	Why tertiary carbonium ion is more stable than primary and secondary carbonium ion
a	due to presence of +I effect

	b	due to presence of -I effect	
	C	due to steric hindrance	
	d	Both a) and c)	
14		Which of the following alkenes will give a mixture of acetone and acetaldehyde on ozonolysis?	
	a	1 butene	
	b	2 methyl 2 butene	
	C	2 butene	
	d	2 methyl propene	
15		Which of the following compound is more stable?	
	a	1,3 butadiene	
	b	1,4 pentadiene	
	C	1,5 hexadiene	
	d	1,2 propadiene	
16		1,3 butadiene reacts with bromine to mainly give	
	a	3,4 dibromo 1 butene	
	b	4 bromo 1 butene	
	C	1,4 dibromo 2 butene	
	d	1 bromo 2 butene	
17		Which of the following statements is in accordance with Saytzeff's rule?	
	a	2-Butene is less stable than 1-Butene	
	b	2,3-Dimethyl-2-butene is more stable than 1-Butene	
	C	2-Butene is more stable than 2,3-Dimethyl-2-butene	
	d	2-Methyl-1-butene is more stable than 2,3-Dimethyl-2-butene	
18		Select the appropriate product for the following reaction.	
			
	a	butan-2-ol	
	b	Isobutyric acid	
	C	Propionic acid	
	d	butan-3-ol	
19		Identify the product when benzaldehyde reacted with concentrated potassium hydroxide.	
	a	Benzyl alcohol	
	b	Benzyl alcohol and potassium salt of benzoic acid	
	C	Potassium salt of benzoic acid	
	d	Benzoic acid	
20		What is the name of final addition product when alcohols are added to ketones?	

a	Hemiacetal	
b	Acetal	
C	Hemiketals	
d	Ketals	
<b>Q. 2</b>	<b>Answer any one question.</b>	<b>12</b>
<b>A</b>		
a	<p>I) Explain in details Electrophilic addition of HBr to 1-propene. Write complete reaction, Give the detailed mechanism for addition as per Markovnikoff's rule and the addition in presence of peroxide. Comment on the stabilities of intermediates and products.</p> <p>II) Give the products obtained on reaction of 2-chlorobutane and alcoholic KOH. Describe the mechanism for formation of both the products. Comment on major and minor product formation. Justify your answer.</p>	6 6
b	<p>I) Give Reasons:</p> <ol style="list-style-type: none"> <li>Why hydrolysis of ethyl chloride is SN2 while hydrolysis of tert-butyl chloride is SN1 reaction?</li> <li>Why alkyl chlorides react easily with -OH ions while vinyl halide does with difficulty?</li> </ol> <p>II) Arrange the following in the order of their increasing reactivity towards nucleophilic substitution reaction. CH3F, CH3Cl, CH3I, CH3Br. Justify your answer. Give detailed mechanism for SN1 Reaction.</p>	6 6
<b>Q. 2</b>	<b>Answer any four questions</b>	<b>48</b>
<b>B</b>		
a	<p>I) Write the IUPAC names for the following</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>1</p> </div> <div style="text-align: center;">  <p>2</p> </div> <div style="text-align: center;">  <p>3</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;">  <p>4</p> </div> <div style="text-align: center;">  <p>5</p> </div> <div style="text-align: center;">  <p>6</p> </div> </div> <p>II) Give structures for the following IUPAC names</p> <ol style="list-style-type: none"> <li>2,3-Dichloro-1,5-dipentanamide</li> <li>3-Bromo-1-propene</li> <li>1-Butene</li> <li>3-Butenoic acid</li> </ol>	6           4



