First Semester Examination-2017 M.Sc. NUTRITION & DIETETICS

Paper Code: NUD-102

Full Marks: 40 **Time: 2 Hours**

Write the answer for each unit in separate sheet

			Unit-III			
	Answer question no.1 & any 3 from the rest					
1.	Answer any five from the following:			1×5= 5		
i)	In FIGE, the shap	A band in gel is-				
	a) L- Shaped	b) U- Sha	ped			
	c) O- Shaped	d) J- Shaj	ped			
ii)	Agarose gel having the 0.8% agarose is generally used for the separation of DNA double strand having the length of					
	a) Less than 100 bp length					
	b) > 100 bp length upto 25,000 bp length					
	c) > 25,000 bp length upto 20,00,000 bp length					
	d) $> 20,00,000$ bp length					
iii)	In SDS- PAGE electrophoresis, the separating and stacking gel buffer having the pH respectively					
	a) 8.8 and 6.8	b) 6.8 and	18.8			
	c) 7.8 and 6.8	d) 6.8 and	d 7.8			
iv)	One SDS can able to bind with how many amino acids					
	a) One	b) Two				
	c) Three	d) Four				
v)	Microsomes are separated by centrifugation having the criteria of					
	a) 3,00,000 g for 2 hour		b) 15,000g for 5 min			
	c) 1,00,000 g for 1 hour		d) 600 g for 10 min			
vi)	In paper chromatography, the amino acid spot is stained by spraying-					
	a) Ethidium Bro	mide	b) Mercapto ethanol			

	c) Ninhydrin	d) Coomassive brilliant stain			
vii)	In cellular metabolism, the heat energy which is produced is known as-				
	a) Enthalpy	b) Entropy			
	c) Free energy	d) Efficiency			
viii)	Important buffer present in our blood involved in maintenance of acid- base balance is-				
	a) Phosphate buffer	b) Bicarbonate buffer			
	c) Protein buffer	d) Haemoglobin- haemoglobina	te buffer		
2.	a) What is Rf value in chromatograph?				
	b) What is the significance of heat generated in agarose gel due to current flow?				
	c) Write the principle of differential centrifugation? 1+2+2=				
3.	a) Write the role of SDS in SDS PAGE electrophoresis.				
	b) Write the site of binding of Ethidium bromide with double stranded DNA.				
	c) What do you mean by ascending and descending paper electrophoresis?				
			2+1+2=5		
4.	a) Write the formula for computation of RCF from RPM.				
	b) Describe the technique for the collection of DNA from gel.				
	c) Write the technique for the detection of DNA bands in agarose gel.				
		1.5	5+1.5+2=5		
5.	a) Write the first law of thermod	lynamics.			
	b) State the application of enthal	lpy in our body			

b) What do you mean by pH and PKA?

a) Write the deduction of H-H equation.

6.

c) State the role of bicarbonate buffer to maintain acid base balance.

c) Define entropy and its application in our body. 1.5+1.5+(1+1)=5

7. a) What is the principle of biomolecule separation by TLC. b) Write the full form of PFGE and RGE. c) State the principle of density gradient centrifugation. 2+(0.5+0.5)+2=5**Unit-IV** Answer question no 8 and any three from the rest 8. Answer any five from the following $1\times5=5$ i) Which one is true statement out of the following for primary structure of protein a) Hydrogen bonding is the prime bonding b) Electrostatic bonding is the prime bonding c) Dipole- Dipole interaction is the prime force d) Peptide bond is the prime bonding. At the branching points of glycogen, the glycosidic bond isii) a) 1, 4 glycosidic bond b) 1,6 glycosidic bond c) 2,6 glycosidic bond d) 4,6 glycosidic bond The most important epimer of glucose isiii) a) Galactose b)Fructose c) Arabinose d) Xynose Which of the following is a reducing sugar? iv) a) Sucrose b)Trichalose c) Isomaltase d) Agar Sulpher containing amino acid is V) a) Methionne b) Leucine d) Aspargine c) Valine An example of phosphoprotein present in egg yolk is vi) a) Ovoalbumin b) Ovoglobulin d) Avidin c) Ovovitalin vii) The protein present in hair is a) Keratin b) Elastin

d) Tropocollagen

c) Myocin

All the following are omega 6 fatty acids except				
a) Linoleic acid	b) α linolenic acid			
b) γ linolenic acid	d) Arachidonic acid			
a) What are free sugars?				
b) Write the sources of free sugars.				
c) What is meant by resis	1+2+2			
a) What is incomplete protein?				
b) Give example of incomplete protein.				
c) Write the important fun	1+1+3			
a) What is peptide bond?				
b) Mention important features of α helix structure of protein.				
c) What is derived protein	2+2+1			
a) Differentiate between structural lipid and storage lipid.				
b) What is mixed triglyceride?				
c) What is meant by acid	2+2+1			
a) What are the building blocks of DNA?				
b) State determinants of GMP and AMP synthesis?				
c) Mention the feedback	feed forward regulation of purines.	1+2+2		
a) What is PRPP?				
b) Distinguish between				
i. Nucleotide and nucleoside				
ii. Ribonucleotide and De	eoxyribonucleotide.	1+2+2		
	 a) Linoleic acid b) γ linolenic acid a) What are free sugars? b) Write the sources of free. c) What is meant by resis a) What is incomplete production. b) Give example of incomplete production. c) Write the important fundary. d) What is peptide bond? b) Mention important fear. c) What is derived protein. a) Differentiate between some some superior. b) What is mixed triglyce. c) What is meant by acid. a) What are the building between some superior. b) State determinants of Complex of the complex of the	 a) Linoleic acid b) α linolenic acid d) Arachidonic acid a) What are free sugars? b) Write the sources of free sugars. c) What is meant by resistant starch? a) What is incomplete protein? b) Give example of incomplete protein. c) Write the important functions of protein. a) What is peptide bond? b) Mention important features of α helix structure of protein. c) What is derived protein? a) Differentiate between structural lipid and storage lipid. b) What is mixed triglyceride? c) What is meant by acid number? a) What are the building blocks of DNA? b) State determinants of GMP and AMP synthesis? c) Mention the feedback / feed forward regulation of purines. a) What is PRPP? b) Distinguish between 		
