

Third Semester Examination-2018

M.Sc. NUTRITION & DIETETICS

Paper Code: NUD-303

Full Marks: 40

Time: 2 Hours

Write the answer for each unit in separate sheet

Unit-29

(Concepts of Nutritional Genomics, Proteomics and Metabolomics)

Answer question no-1 and any three from the rest.

1. Answer any five questions from the following: 1×5=5

- a) Write the name of the unique enzyme used in PCR for DNA replication.
- b) Define epigenetics.
- c) Write the full forms of PPAR and P×R.
- d) What is restriction endonuclease?
- e) Write any two features of plasmid.
- f) State one difference of r-DNA technology from DNA hybridization.
- g) Define nutrigenomics.
- h) What is nucleosome?

**2. a) How will you transfer the blunt cut end of DNA after R.E treatment 2+1+2=5
Into staggered end?**

b) What do you mean by primer in PCR?

c) What are the ingredients required in PCR micro well for gene replication?

**3. a) Write the models of nutrient gene interaction in connection with 2+3=5
“ switch on-off the gene.”**

b) State the role of retinol and DHA on specific gene expression.

4. a) State the role of folic acid on epigenetics. **4+1=5**
- b) Write the names of any two enzymes involved in gene stability.
5. a) Write the advantages of Q-PCR over routine PCR. **2+1½+1½=5**
- b) State the temperature of three steps in each cycle of PCR.
- c) Which one will you select out of mRNA and DNA from cell for gene expression study and why?
6. a) Write the role of vit-E on gene expression. **2+2+1=5**
- b) State the role of **ceremin** on DNA stability.
- c) Write one example of gene imprintation by dietary ingredient.
7. a) Write the gene imprintation in short. **2+3=5**
- b) How pregnant diet modulates diabetic controninp gene importation of next offprint?

Unit- 30

(Drug & Nutrient Interaction)

Answer question no-1 and any three from the rest.

1. Answer any five questions from the following: 1×5=5

a) What do you mean by clinical Pharmacology?

b) Write the use of excipients.

c) What do you mean by pharmacodynamics?

d) Define Probiotics.

e) Write the concept of pharmacotherapeutics.

f) What do you mean by LD50?

g) What is glucororide conjugation of a drug?

h) What do you mean by cytotoxicity?

**2. a) Write the effect of nutrient on drug metabolism citing any one 4+1=5
Example.**

b) What do you mean by half-life on drug?

- 3. a)** Briefly discuss on the effect of plasma protein on drug efficacy. **3+2=5**
- b)** Write the name of two animatic drug.
- 4. a)** Discuss about the role of drug on nutrient absorption citing any two **3+2=5**
Example.
- b)** What do you mean by drug bio trans formation?
- 5. a)** Write the importance of probiotic organism with special reference to **4+1=5**
- b)** Write down the name of some common probiotic organism.
- 6. a)** State the drug excretion mechanism with special reference **1½+1½+2=5**
to Zero Order and first Order Kinetics.
- b)** Describe pharmacological importance of carotenoids and phenols in
human health.
- 7. a)** What do you mean by teratogenicity and mutagenicity? **2(1½+1½)=5**
- b)** Briefly describe the biotrans formation of drugs with special
reference to oxidation and methylation reactions.