

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
MSc DEGREE EXAMINATION MAY 2022
(Second Semester)

Branch – CLINICAL NUTRITION AND DIETETICS

DISCIPLINE SPECIFIC ELECTIVE – I : FOOD MICROBIOLOGY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. Viruses can range in the size between _____.
a) 2 to 75nm
b) 10-20nm
c) 20 to 750nm
d) 20-750mm
2. Number of generations of bacteria per hour of its growth is termed as _____.
a) Growth rate
b) Generation rate
c) Exponential rate
d) Bacterial rate
3. *Trichothecium roseum* generally causes _____.
a) Green rot
b) Pink mould rot
c) Black mould rot
d) Black rot
4. Ochratoxin B is dechloro derivative of _____.
a) aflatoxin
b) ochratoxin A
c) botulin
d) mycotoxin
5. Which of these is not considered as a biological contaminant?
a) Mushroom toxins
b) Glass surface
c) *Salmonella*
d) Sea food toxins

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

6. (a) Relate and compare yeast and mold.
(OR)
(b) Why viruses are called as living chemicals?
7. (a) Biological structure play an important role in preserving the food products – Justify the statement with suitable example.
(OR)
(b) Point out the application of high temperature in controlling/preventing the growth of microorganisms.
8. (a) Identify any three spoilage caused by aerobic microorganisms in milk and milk products along with their name.
(OR)
(b) Why coliforms are considered as indicator microorganism in water?

Cont...

9. (a) State the symptoms and preventive measure for botulism.
(OR)
(b) Recall the various chemical methods used to detect the food borne pathogens.
10. (a) List out any three fermented foods available in the commercial market and also mention the microorganisms used to produce that.
(OR)
(b) What is CCP and mention its importance in food microbiology.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

11. (a) Draw the structure of bacteria and explore the various functions of the bacterial internal parts.
(OR)
(b) Outline the various biochemical changes caused by microorganisms with suitable example.
12. (a) Summarize and explain the internal factors affecting/influencing the growth of microorganisms in food products with suitable example
(OR)
(b) Draw the growth curve for batch and continuous bacterial culture and also explain the various phases on it.
13. (a) Describe the various spoilage caused by microorganisms in vegetables.
(OR)
(b) Identify and examine the various spoilage caused by anaerobic microorganisms in the canned foods.
14. (a) Outline and explain the various food borne illness caused by bacteria.
(OR)
(b) Derive the steps involved in the PCR while detecting the microorganisms.
15. (a) Point out the beneficial microorganisms used in food processing industry and also comment on its merits and demerits.
(OR)
(b) Microbiological criteria and standards for foods are very essential – Justify the statement with suitable example.

Z-Z-Z

END

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MSc DEGREE EXAMINATION MAY 2022
(Third Semester)
Branch – CLINICAL NUTRITION & DIETETICS

NUTRACEUTICALS AND DRUG - NUTRIENT INTERACTION

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

1. Which one of the following functional ingredients improves gastrointestinal health and also calcium absorption?
a) Fructo-Oligosaccharides b) Daidzein c) Sterols d) PUFA
2. Find out the appropriate alimentary route of administration when passage of drugs through liver is minimized
a) Oral b) Transdermal c) Rectal d) Intraduodenal
3. Which of the following is not usually considered for drug-nutrient interactions when using diuretics?
a) Vitamin D b) Vitamin C c) Potassium d) Vitamin B6
4. Name the drug known to cause iron deficiency through chronic blood loss.
a) Aspirin b) Antibiotics c) Diuretic d) Insulin
5. Choose which among the following is the common and dose related side effect of salbutamol.
a) Decrease in blood pressure b) Muscle tremor
c) Central nervous system stimulation d) Hyperglycaemia
6. When a person takes antacid regularly which of the following nutrient absorption is reduced?
a) Carbohydrate b) Folate c) Calcium d) Fat
7. Identify which of the following cell damage occurs due to chemo drug.
a) Heart b) Kidney c) Lungs d) All the above
8. State the nutrient that should be vigorously monitored in renal failure patient that get lost during treatment.
a) Electrolyte b) Protein c) Vitamin d) Carbohydrate
9. State the predominant influence of parenteral nutrition on drug action.
a) Glucose control b) PEM
c) Metabolism d) Electrolyte
10. Name the term referred to the microorganisms that have a beneficial effect on the host intestinal microbial balance.
a) Semibiotics b) Abiotic factors
c) Probiotics d) Non-probiotics

SECTION - B (35 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 7 = 35)

11. a) Classify Nutraceuticals and write about the functional component in food.

OR

Cont...

b) Discuss about the various routes of drug administration and explain about elimination of the drug.

12. a) Explain in detail about the mechanism of drug nutrient interaction.

OR

b) Show about the dietary supplement interactions with drug

13. a) Sketch how diuretics affects the nutritional status of an individual.

OR

b) Recommend the drugs for patient suffering from ulcer and explain how does it affect the nutritional status.

14. a) Evaluate about the drug nutrient interaction in transplantation patient.

OR

b) Analyze how immune system response to drug nutrient interaction.

15. a) Explain about the role of probiotics in tube feeding.

OR

b) Discuss about interaction of commercial formula with drug in parenteral nutrition

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16. Analyze about the mechanism of action of drug in detail.

17. Enumerate about the interaction between nutrient and nutrient and its effect.

18. Elucidate various effect of cardiac drug on nutritional status of the patient

19. Interpret about the effect of drug and nutrient interaction among cancer patient.

20. Interpret the importance of special diet with respect to enteral feeding.

Z-Z-Z

END

PSG COLLEGE OF ARTS & SCIENCE
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(Second Semester)

Branch – CLINICAL NUTRITION AND DIETETICS

CLINICAL BIOCHEMISTRY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. A liver biopsy from an infant with hepatomegaly, stunted growth, hypoglycaemia, lactic acidosis, hyperlipidaemia revealed accumulation of glycogen having normal structure. Identify the possible diagnosis from the following.
 - a) Branching enzyme deficiency
 - b) Liver phosphorylase deficiency
 - b) Debranching enzyme deficiency
 - d) Glucose-6-phosphatase deficiency
2. Which of the following cofactors of their derivatives must be present for the conversion of acetyl- CoA to Malonyl-CoA in extramitochondrial FA synthesis?
 - a) FAD
 - b) FMN
 - b) c) NAD+
 - d) Biotin
3. Find the product of the series of reactions that converts carbamoyl-(P) to urea
 - a) Arginine
 - b) Citrulline
 - c) Fumarate
 - d) Aspartate
4. Identify the common gene delivery system for in vivo gene therapy?
 - a) Micro injection
 - b) Lipofecction
 - c) Adino viral vectors
 - d) Electro proton
5. Which tumor marker is associated with Germ cell tumor?
 - a) Alpha Feto Protein
 - b) Calcitonin
 - c) Thyroglobulin
 - d) Desmin

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Classify enzymes with suitable examples.
OR
- b Describe "Krebs" citric acid cycle.
- 7 a Explain how the ketone bodies are metabolized.
OR
- b Illustrate the functions of plasma lipoproteins.
- 8 a Describe Amino acid pool and how it is maintained.
OR
- b Explain oxidative phosphorylation.
- 9 a Describe Genetic code.
OR
- b Evaluate the applications of Genetic engineering.
- 10 a List the clinical uses of radioisotopes.
OR
- b Reveal any two tests used to estimate the gastric function.

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

- 11 a Explain the factors which influence the rate of enzyme action.
OR
b Describe the process of glycogen formation and breakdown in the Liver. Highlight the points of difference and their significance.
- 12 a Infer the steps involved in oxidation of fatty acids.
OR
b Illustrate the biosynthesis of phospholipids.
- 13 a Interpret creatine and creatinine synthesis.
OR
b Summarize the metabolic process in starvation.
- 14 a Describe the process of DNA replication and protein synthesis.
OR
b Review the various approaches towards gene therapy.
- 15 a Analyze the biochemical tests used to assess the liver function.
OR
b Discuss the radiological investigations used for clinical diagnosis.

Z-Z-Z

END

10 a. Illustrate the causes of cancer.

OR

b. State the different stages of cancer cell.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 6 = 30)

11 a. Illustrate the diet for the post-operative condition in neck.

OR

b. Describe MNT for the primary degree burn.

12 a. Summarize the types of diarrhea and its preventive measure.

OR

b. Discuss the nutrition intervention plan for the 45 years adult women caused hiatus hernia.

13 a. Illustrate how the growth and development assessed during infancy.

OR

b. Manu is 15 year student studying ninth standard her weight is 60kg and height is 143 cm. she has irregular MC once she met a dietitian to know her ideal body weight. Analyse the category of obesity then plan a menu and suggest dietary modification to maintain her weight and to get regular MC.

14 a. Enumerate the etiology, symptoms and diet for the chronic renal failure.

OR

b. Elucidate the medical nutrition therapy for renal transplantation.

15 a. Enumerate the causes, pathophysiology and clinical manifestation of cancer.

OR

b. Analyze the dietary modification and plan a menu for pediatric cancer.

Z-Z-Z

END

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Branch – CLINICAL NUTRITION AND DIETETICS

HEALTH CARE MANAGEMENT

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

1. Organization effectiveness comprises all except
(a) Productivity power (b) Adoptability to change
(c) Rigidity in structure (d) flexibility in structure and strategy
2. Filing, Indexing and Retrieving records is work carried in _____
(a) Therapeutic (b) medical records department
(c) Administration department (d) Maintenance department
3. _____ number of objective elements are high in AAC chapter of NABH
4th Edition when compared with 3rd edition.
(a) 10 (b) 11
(c) 24 (d) 35
4. Shopping window of hospital is
(a) Operation theatre (b) ICU
(c) OPD (d) Cafeteria Service
5. The term TPA refers to-----
(a) third party administrator (b) to provide assistance
(c) third party assistance (d) the primary associate

SECTION - B (15 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 3 = 15)

- 6 a. Illustrate the history of Indian hospital.
OR
b. Discuss the organization chart of the hospital.
- 7 a. State the role and responsibility of HR.
OR
b. Describe the importance of medical ethics.
- 8 a. Mention the advantages of hospital management.
OR
b. Analyze the rules of Biomedical waste management.
- 9 a. Sketch out the functions of the medical record.
OR
b. Recall the advantages of SOP.
- 10 a. Classify the types of waste.
OR
b. Discuss on disaster management.

Cont...

SECTION -C (30 Marks)

Answer ALL questions
ALL questions carry EQUAL Marks (5 x 6 = 30)

- 11 a. Illustrate the lay out of the multispecialty hospital with schematic diagram.
OR
b. Describe the health service role to improvise the human health.
- 12 a. Summarize the hospital advisory committee.
OR
b. Analyze the roles and responsibility of emergency medical service and PRO.
- 13 a. Explain the patient and consumer protection act.
OR
b. Discuss the principle and strategic plan for Hospital management.
- 14 a. Enumerate the technology advancement of medical record.
b. Elucidate the SOP for the ICU and Dietary.
- 15 a. Enumerate the health insurance and its importance.
OR
b. Elaborate on color coding and justify how it supports in medical field.

Z-Z-Z

END