

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023
(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 Mention the key enzyme of TCA cycle.
(i) Fumarase (ii) aconitase
(iii) succinate thio kinase (iv) Citrate synthase
- 2 How many number of Glucose- 6- phosphate formed by HMP shunt?
(i) 4 (ii) 5
(iii) 6 (iv) 3
- 3 Which among the following enters into the amino acid pool?
(i) Iron (ii) Globin
(iii) Choleglobin (iv) Bilirubin
- 4 DNA was first demonstrated in the year?
(i) 1944 (ii) 1946
(iii) 1943 (iv) 194
- 5 Which dye is not used for the renal function dye test?
(i) Phenol red
(ii) Indigo carmine
(iii) 2,6,dichlorophenol indophenols
(iv) phenal sulfonaphthalein

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Analyze the factor influence the enzyme activity.
OR
b Discuss on uronic acid pathway.
- 7 a Sketch out the functions of plasma protein.
OR
b Illustrate the classification of lipids.
- 8 a Explain water electrolyte balance.
OR
b Show the catabolism of amino acid.
- 9 a State on transcription of genetic information.
OR
b Sketch out the gene therapy.
- 10 a Explain the classification of oncogenic markers.
OR
b Discuss on lactose breath test.

Cont...

SECTION -C (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks

(5 x 6 = 30)

- 11 a Enumerate the classification of enzymes.
OR
b Construct the flow diagram of HMP Shunt.
- 12 a Elucidate the regulation and biosynthesis of cholesterol.
OR
b Analyze oxidation of fatty acids.
- 13 a Determine the regulation and synthesis of creatinine.
OR
b Evaluate the oxidative phosphorylation & electron transport chain.
- 14 a Discuss the biosynthesis of protein.
OR
b Determine the structure of RNA.
- 15 a Recommend the tests to be performed to check the functions of Heart.
OR
b Assess the test to be performed the functions of liver.

Z-Z-Z

END

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MEDICAL DIETETICS - II

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 Which one of the following is the characteristic feature of Refeeding Syndrome?
(i) Hypovitaminosis (ii) Hypoxia
(iii) Hypophosphatemia (iv) Hyperphosphatemia
- 2 Common nutritional problems associated with bacterial overgrowth in stomach and small intestines include
(i) Sensitivity to gluten
(ii) Fat malabsorption and vitamin B₁₂ deficiency
(iii) Increased absorption of bile salts and constipation
(iv) Permanent loss of digestive enzyme
- 3 Which of the following anti-obesity medication influences either energy intake or energy absorption?
(i) Sibutramine (ii) Phentermine
(iii) Phenylpropanolamine (iv) Orlistat
- 4 The general dietary needs for a patient on hemodialysis includes
(i) Increased fluid (ii) High protein to compensate for losses
(iii) Restricted calorie intake (iv) Increased phosphorus
- 5 An adequate amount of high quality protein is essential in the diet of a patient with cancer to
(i) Prevent catabolism (ii) Prevent anabolism
(iii) Stimulate hypermetabolism (iv) Meet increased energy demands

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Mention the indications for jejunostomy feeding.
OR
b Analyze on pre and post operative nutritional care.
- 7 a Differentiate between acute & chronic gastritis.
OR
b State Steatorrhea and mention its characteristics.
- 8 a Enumerate the Indications for bariatric surgery.
OR
b Briefly outline the dietary strategies for weight reduction.
- 9 a Describe the types of dialysis.
OR
b What are the Guidelines of dietary requirement in renal transplant.

Cont...

- 10 a List the impact of chemotherapy on nutritional intake.
OR
b Write briefly on severity grading of cancer.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Define Refeeding syndrome. Explain the etiology and prevention of Refeeding Syndrome.
OR
b Explain the role of micronutrients in wound healing.
- 12 a Enumerate the principles of nutritional management of Peptic ulcer and Gastric ulcer.
OR
b Explain the indications and benefits of FODMAP diet.
- 13 a Explain the pharmacological treatment for weight reduction.
OR
b Ms. V is a 43 yr old female with a height of 157 cms weighing 121 kgs, without any comorbidities. Calculate her BMI and explain the dietary approaches for weight reduction.
- 14 a Mention the characteristic feature of Nephrotic Syndrome. Write on the principles of dietary management for patients with nephrotic syndrome.
OR
b Write short notes on Early and post renal transplant nutrition management.
- 15 a State Cancer Cachexia and what are its diagnostic features?
OR
b Explain the medical nutrition therapy for cancer survivors.

Z-Z-Z

END

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Branch – CLINICAL NUTRITION AND DIETETICS

FOOD SERVICE MANAGEMENT AND ENTREPRENEURSHIP

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

- 1 Choose the objective of Food production Control.
(i) Reduce waste (ii) Reduce Cost
(iii) Eliminate incorrect portion Size (iv) All the Above
- 2 What is the collection of practices and guidelines to keep your operations clean and healthy condition?
(i) Food Hygiene (ii) Personal Hygiene
(iii) Environmental Hygiene (iv) Hygiene
- 3 In which book account transactions are recorded?
(i) Ledger (ii) Journal
(iii) Trial Sheets (iv) All the above
- 4 Pick the correct meaning of Entrepreneur.
(i) to do something (ii) to make new thing
(iii) to be the leader (iv) to be successor
- 5 What does the pitching in business mean?
(i) to present yourself to others
(ii) to present your valid points to other party
(iii) to present our business idea to other party
(iv) to get the idea from the other business party

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a. Discuss the points to be considered during menu planning.
OR
b. Give the methods for food production.
- 7 a. Assess the points to be considered in the selection of equipment in food service facility.
OR
b. Sketch out the importance of personal hygiene in food Service.
- 8 a. Determine the role of Accounting Information System.
OR
b. Discuss on financial management in food service management.
- 9 a. Classify the different types of entrepreneurship.
OR
b. Elucidate the concept of emotional intelligence in entrepreneurship.

Cont...

- 10 a. Assess the stages of design thinking.
OR
b. Describe the problem identification and idea generation in food business plan.

SECTION -C (30 Marks)

Answer ALL questions

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

- 11 a. Explain the food services methods and modes of delivery.
OR
b. Analyze various types of menu and compile a sample menu for a pregnant woman with Gestational Diabetes.
- 12 a. Appraise on coming up with the layout of facilities in food service.
OR
b. Give the importance of HACCP in food service facility.
- 13 a. Infer about the cost control in food service facility.
OR
b. Every food service establishment needs to be assessed periodically to determine its state of efficiency. Justify.
- 14 a. Elucidate on Characteristics of a Successful entrepreneur with their traits and competencies.
OR
b. Criticize on the innovative leadership in entrepreneurship.
- 15 a. Illustrate the key elements of design thinking.
OR
b. Develop and discuss about a business plan for Nutripreneurship.

Z-Z-Z

END

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**MAJOR ELECTIVE COURSE – I: ADVANCED FOOD MICROBIOLOGY/
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 Name the microorganism that cause candidiasis of mouth, skin and throat.
(i) *Candida auris* (ii) *Candida albicans*
(iii) *Candida gatti* (iv) *Candida neoformans*
- 2 At _____ redox potential anaerobes can grow in food and possess the ability to produce energy.
(i) +300 to + 500mv (ii) +300 to + 100mv
(iii) +100 to -250mv (iv) +600 to + 400mv
- 3 The indicator organism of fecal contamination in water is _____.
(i) *Salmonella* (ii) *Streptococcus*
(iii) *E.coli* (iv) *Bacillus*
- 4 Name the organism used in fermentation of sauerkraut.
(i) *L.plantarum* (ii) *L.mesenteroides*
(iii) *A.oryzae* (iv) *B.natto*
- 5 As per FSSAI the moisture content of whole milk powder should be _____.
(i) Not more than 4% (ii) Not less than 5%
(iii) Not more than 5% (iv) Not less than 4%

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Discuss the characteristics and morphological features of mold.
OR
b Prepare a table of food spoilage and pathogenic bacteria associated with foods.
- 7 a Explain the role of high temperature in arresting the microbial growth.
OR
b Show the antimicrobial constituents that affects the growth of microbes.
- 8 a Classify the types of spoilage seen in canned foods.
OR
b Sketch the microbes responsible for spoilage of milk during handling and storage.
- 9 a Discuss the physical and chemical agents used for control of microorganisms.
OR
b Explain the types of fermentation with examples.

Cont...

- 10 a Enumerate the importance of food quality control.
OR
b Show the organizational structure of any one agency or organization related to quality assurance.

SECTION -C (30 Marks)

Answer ALL questions

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

- 11 a Appraise the degradation of proteins caused by microorganisms.
OR
b Sketch the structure of virus and yeast.
- 12 a Report on the intrinsic factors affecting the growth of microorganisms.
OR
b Evaluate the use of irradiation technique on control of microbes in foods.
- 13 a How will you assess the microbiological quality of water?
OR
b Create a table for the spoilage of perishable foods.
- 14 a Explain in detail anyone of the food borne disease.
OR
b Differentiate prebiotics, probiotics and synbiotics.
- 15 a Evaluate the need for HACCP in food industries.
OR
b Discuss about the documents required for reporting the quality of foods.

Z-Z-Z

END