Dr. V. S. KRISHNA GOVT. DEGREE COLLEGE (AUTONOMOUS)
MADDILAPALEM, VISAKHAPATNAM
B.Sc MICROBIOLOGY (CBCS) FINAL YEAR – SEMESTER- V(W.E.F 2019 - 20)
PAPER –3A ENVIRONMENTAL & AGRICULTURAL MICROBIOLOGY
Model paper

Max Marks: 60 Time: 3hrs

SECTION –A 5 x 8 = 40 M

Answer ALL questions (Draw the diagrams wherever necessary)

1.a) Terrestrial Environment Soil profile and soil microflora

Or

1.b) Aeromicroflora and dispersal of microbes
Extreme Habitats

2.a). Role of microorganisms in nutrient cycling (Carbon, nitrogen, phosphorus).

Or

2.b) Treatment and safety of drinking water, methods to detect potability of water samples

3.a) Outlines of Solid Waste management: Sources and types of solid waste, Methods of solid waste disposal

Or

3.b) (BOD and COD), Primary, secondary tertiary sewage treatment.

4.a) Plant Growth Promoting Microorganisms - Mycorrhizae, Rhizobia, *Azospirillum,*

Or

4.b) Outlines of biological nitrogen fixation (symbiotic, non-symbiotic)
Biofertilizers - *Rhizobium*.

5.a) Concept of disease in plants. Symptoms of plant diseases caused by fungi, bacteria, viruses.

Or

5.b) Plant diseases - groundnut rust, Citrus canker and.

SECTION –B 5 x 4 = 20 M

Answer any FIVE questions (Draw the diagrams wherever necessary)

6. : Aeromicroflora and dispersal of microbes
7. hydrostatic & osmotic pressures
8. presumptive test/MPN test
9. mutualism, commensalism,
10. ,Methods of solid waste disposal
11. Plant Growth Promoting Microorganisms
12. Principles of plant disease control.
13. tomato leaf curl

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B.Sc MICROBIOLOGY (CBCS) FINAL YEAR – SEMESTER- V (W.E.F 2019 - 20)
PAPER – 4A DIAGNOSTIC MICROBIOLOGY
Model paper

Max Marks: 60 Time: 3hrs

SECTION –A 5 x 8 = 40 M

Answer ALL questions (Draw the diagrams wherever necessary)

1.a) Study of causative organism and pathogenesis of Bacterial

Or

1.b) candidacies) and Protozoan(amoebiasis) diseases and their laboratory diagnosis.

2.a). Collection of clinical samples (oral cavity, throat, skin, blood, CSF, urine

Or

2.b) Method of transport of clinical samples to laboratory and storage.

3.a) Examination of sample by staining - Gram stain, Ziehl-Neelson staining for tuberculosis,

Or

3.b) Preparation and use of culture media - Blood agar, Chocolate agar,

4.a) Serological Methods - Agglutination, ELISA,

Or

4.b) PCR, Nucleic acid probes

5.a) Principle, procedure and interpretation of the methods of antimicrobial susceptibility

Or

5.b) , E-test, determination of minimum inhibitory concentration by broth dilution and agar dilution.

SECTION –B 5 x 4 = 20 M

Answer any FIVE questions (Draw the diagrams wherever necessary)

6. Protozoan(amoebiasis)
7. Viral(polio)
8. Collection of clinical samples precautions required.
9. Lowenstein-Jensen medium, MacConkey agar
10. colony properties of various bacterial pathogens
11. symptoms of epidemic diseases
12. Stokes method,
13. Kirby-Bauer method

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B.Sc MICROBIOLOGY (CBCS) FINAL YEAR – SEMESTER- V (W.E.F 2019 – 20)
PAPER – 3B(i) FOOD AND INDUSTRIAL MICROBIOLOGY
Model paper

Max Marks: 60 Time: 3hrs

SECTION –A 5 x 8 = 40 M

Answer ALL questions (Draw the diagrams wherever necessary)

1.a) Intrinsic and extrinsic parameters that affect microbial growth in food

Or

1.b) Microbial spoilage of food - fruits, vegetables, milk, meat, egg, bread and canned foods

2.a). Principles of food preservation - Physical and chemical methods

Or

2.b) Fermented Dairy foods – cheese and yogurt.

3.a) Microorganisms of industrial importancEyeasts(*Saccharomycescerevisiae*),molds(*Aspergillus niger*),

Or

3.b) Outlines of Isolation and Screening and strain improvement of industrially-important microorganisms.

4.a) Types of fermentation processes – solid state, liquid state, batch, fed-batch, continuous

Or

4.b) Basic concepts of Design of fermenter.

5.a) Microbial production of Industrial products: Citric acid,

Or

5.b) Microbial production of Industrial products vitamin B12.

SECTION –B 5 x 4 = 20 M

Answer any FIVE questions (Draw the diagrams wherever necessary)

6. Food intoxication (botulism
7. SCP, edible mushrooms
8. actinomycetes (*Streptomyces griseus*
9. Screening and strain improvement
10. Downstream processing - filtration
11. cell disruption, solvent extraction
12. production of Industrial product Penicillin
13. production of Industrial product Amylase

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B.Sc MICROBIOLOGY (CBCS) FINAL YEAR – SEMESTER- VI (W.E.F 2019 - 20)
PAPER – 4 cluster-1 B(i) - INDUSTRIAL MICROBIOLOGY
Model paper

Max Marks: 60 Time: 3hrs

SECTION –A 5 x 8 = 40 M

Answer ALL questions (Draw the diagrams wherever necessary)

1.a) Microorganisms of industrial importance – yeasts, moulds, bacteria,

Or

1.b) Primary and secondary microbial metabolites

2.a). : concept and discovery of fermentation

Or

2.b) Fermenter: its parts and function.

3.a) Pharma and therapeutic enzymes. Enzymes used in detergents, textiles and leather industries

Or

3.b) Production of therapeutic enzymes.

4.a) Industrial microorganisms: cell growth, microbial growth kinetics, factors affecting growth,

Or

4.b) components of media, chemical composition of media.

5.a) Basic structure of bioreactor

Or

5.b) kinetics and methodology of batch and continuous bioreactors

SECTION –B 5 x 4 = 20 M

Answer any FIVE questions (Draw the diagrams wherever necessary)

6. Industrially important metabolites from microbes
7. Screening techniques.
8. Fermenter – batch, continuous and fed batch
9. microorganisms in bioleaching
10, chemical composition of media.
11. principles of production media,
12. Sterilization of bioreactors
13. . Aeration and agitation

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B.Sc MICROBIOLOGY (CBCS) FINAL YEAR – SEMESTER- II (W.E.F 2019 - 20)
PAPER – 4 cluster-1 B(ii) FOOD MICROBIOLOGY
Model paper

Max Marks: 60 Time: 3hrs

SECTION –A 5 x 8 = 40 M

Answer ALL questions (Draw the diagrams wherever necessary)

1.a) Microorganisms of food spoilage and their sources. Spoilage of different food materials fruits

Or

1.b) food-borne diseases (salmonellosis and shigellosis) and their detection.

2.a). General account of food preservation. Microbiological production of fermented foods

Or

2.b) Biochemical activities of microbes in milk. Microorganisms as food – SCP, edible mushrooms

3.a) Microbial production of distilled beverages, gen and whisky.

Or

3.b) Introduction, processing and plant production, acetic acid bacteria and mechanism of acidic acid fermentation

4.a) Food processing & preservation: Methods of food preservation, Aseptic handling, pasteurization

Or

4.b) and freezing, dehydration, osmotic pressure, chemicals – organic acids,

5.a) Probiotics: history, common properties of probiotics, examples of probiotic microorganisms

Or

5.b) . Production of vitamins: vitamin B12 – organisms used, production method,

SECTION –B 5 x 4 = 20 M

Answer any FIVE questions (Draw the diagrams wherever necessary)

6. food-borne diseases
7. intoxication (botulism and staph poisoning),
8. SCP, edible mushrooms
9. commercial vinegar production
10. pasteurization of milk,
11. UV light, Y-irradiation
12. Uses of probiotics.
13. . Vitamin C – organism

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B.Sc MICROBIOLOGY (CBCS) FINAL YEAR – SEMESTER- II (W.E.F 2018 - 19)
PAPER – 4 Cluster-1B(iii) MANAGEMENT OF HUMAN MICROBIAL DISEASE
Model paper

Max Marks: 60 Time: 3hrs

SECTION –A 5 x 8 = 40 M

Answer ALL questions (Draw the diagrams wherever necessary)

1.a) Introduction to human microbial diseases caused by bacteria, virus, fungi and protozoa.

Or

1.b) Definition and concept of health, disease, infection, and pathogen.

2.a) General account of epidemiology: principles of epidemiology, current epidemics.

Or

2.b) Measures for prevention of epidemic – global health consideration,

3.a) Over view of diseases caused by virus – AIDS, Hepatitis

Or

3.b) history, causative agent, pathogenesis, diagnosis, drugs and inhibitors.

4.a) Harmful microbial interaction: human entry of pathogens into the host, types of bacterial pathogens,

Or

4.b) , virulence factors, exotoxins, enter toxins, end toxins, neurotoxins

5.a) Methods of transmission and role of vectors- biology of vectors.

Or

5.b) . Drug resistance in bacteria

SECTION –B 5 x 4 = 20 M

Answer any FIVE questions (Draw the diagrams wherever necessary)

6. Types of human microbial diseases and their transmission,
7. What is global health consideration.
8. Biological weapons.
9. chicken pox
10 poxvirus
11.Host factors for infection & innate resistance to infection.
12. Common infective syndromes and parasitic manifestations;
13. biology of vectors. Mosquitoes