

KRISHNA UNIVERSITY: MACHILIPATNAM
III B.A., B.Sc. & B.Com. Part I Paper
SCIENCE, TECHNOLOGY AND DEVELOPMENT
(Foundation Course at the end of third Year Undergraduate Programme)
With effect from 2012-2013

MODEL QUESTION PAPER

Time: 3 hours

Max. Marks: 100

SECTION A

Answer any four of the following questions

4 x 15 = 60

1. What is Earth? Explain different types of earth system in detail.
2. Explain the evolution and diversity of life
3. What are pesticides? Explain different types of pesticides. Write their uses and disadvantages.
4. What are drugs? Explain different types of drugs available in the market with their advantages and disadvantages.
5. What are the important types of communication types available today? Explain.
6. What is energy? Explain different forms of energy available in nature.
7. What is biotechnology? Explain its applications in human health and agriculture.
8. Name few National institutions in our country. Explain national institutions in research role in the development of our country.

SECTION B

Answer any Eight of the following questions

8 x 5 = 40

9. Write on green revolution.
10. Explain Energy conservation.
11. Write the functions of mass communication.
12. Write on internet.
13. Write about the importance of communication.
14. Mushroom Culture.
15. Wheel Explain.
16. Write on food processing.
17. Explain soil and its fertility.
18. Write some applications of poly vinyl chloride (PVC).
19. Write the importance of Vitamins in maintaining our health.
20. Explain DNA and its role in life
21. What are detergents?
22. What is blood? Explain its groups.
23. Explain the importance of Ozone layer
24. Write about the drugs available for treating AIDS.

KRISHNA UNIVERSITY: MACHILIPATNAM
III B.Sc. Part II Papers
MODEL QUESTION PAPER

BOT 3 B-6

3301-311C

B.Sc. Degree Examinations - Model Q.P.
 (Regular)
 Examination at the end of Third Year
 Part II: BOTANY (Theory)

Paper III: cell Biology, Genetics, Ecology & Biodiversity

Maximum: 100 Marks

Time: Three hours

Note: Draw neat, labelled diagrams wherever necessary.

Section A - 10x2 = 20 marks

Define or Explain ALL questions.

1. Nucleolus - కేంద్రకంకణము.
2. Equatorial plate - అక్షాంశ స్థల కణకణము
3. G.S. - ~~Genetic~~ arrangements - సిస్-టేము
4. Epistasis - ఎపిస్టాసిస్
5. Food web - ఆహార పుంజు
6. Secondary production - బయోమాస్ ఉత్పత్తి.
7. NBPGR
8. Endemism - స్థానికత
9. Nullisomics -
10. Threats of Biodiversity - జీవ వైవిధ్యం (అపాయనాలు) ముప్పులు

Section - B

4x5 = 20 M.

Answer any Four of the following.

11. m RNA - రాయబారి RNA
12. Euchromatin - Heterochromatin - అంజుకామకం, హేటికా (కామకం)
13. Transposable elements - డ్రాప్లెట్ మోజుల వలన ఎంబెడెంట్
14. Anatomical adaptation in xerophytes - ఎడారి మొక్కలలో - అంతర్నికాని సంబంధ
15. Agro-biodiversity - ఆగ్రో బయో వైవిధ్యం - ఉన్నత మూలకాలు.
16. Ecotypes and Ecads - ఎకో టైప్, ఎకో డ్స్.

SECTION - C

4x15 = 60M

Answer ALL the questions.

17. A. Give an account of Molecular organisation of cell membrane.
 కణ అడ్వైచము - నిరంతరము సురంబంధించుచుండు.
- B. Explain the Replication of DNA - (DNA - ప్రతికృతి విధానాన్ని వివరించుండు)
18. A. Enumerate the Mendelian laws with suitable examples.
 మెండెల్ - ఉన్నత వివరించుచుండు.
- B. Explain the Gene Regulation in lac-operon
 లాక్ - ఒపరేషన్ లో జన్యు నియంత్రితాను వివరించుండు.

A. V. Ranga Rao

19 A. Define and Explain the Components of Ecosystem.

ఆవరణా వ్యవస్థను నిర్వచించు, అనుభుజుకలను గురించి వివరించండి.

(or)

B. what is Ecological Succession. Explain about Hydrosere.

ఆవరణ-అనుక్రమమనగానేమి? జలక్రమకాన్ని వివరించుము.

20. A. Define Biodiversity. Give the Concepts and types of Biodiversity.

జీవ వైవిధ్యమనగానేమి? కాన్సెప్టు, రకాలను వివరించండి.

(or)

B. Explain about Hot spots of western ghats.

శీత పచ్చిమొక్కలను ఉన్న జీవ వైవిధ్య కేంద్రాలను గురించి వివరించండి.

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Instructions to Question paper setter

1. There are 3 sections in the Question paper.
2. Section - A: a) 2 - marks answers: 1-10 = 10 Questions.
b) set at least 2 Questions from Each Unit of the Syllabus.
3. Section - B: a) 5 - marks answers.
b) Six Questions have to be given - covering all the four sections - at least one from each unit.
4. Section: C: a) Essay type Questions - 15 marks
b) Internal choice type is eight/or
c) 17th Question from unit I
18th Question from unit II
19th Question from Unit III
20th Question from Unit IV.
5. while setting the Question paper - ANU curriculum and Syllabus has to be followed.

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(GVRangarao)

KRISHNA UNIVERSITY: MACHILIPATNAM
III B.Sc. Part II Papers
MODEL QUESTION PAPER

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BOT-4B.

3.301-4 III

B.Sc. Degree Examinations - Model Q.P.
(Regular)

Examination at the end of Third Year

Part II - BOTANY (Theory)

Paper IV : Physiology, Tissue Culture, Biotechnology,
Seed Technology and Horticulture.

Maximum: 100 marks

Time: 3 Hours.

Draw neat, labelled diagrams wherever necessary.

SECTION - A: 10 x 2 = 20M.

Define or explain ALL questions

(Note to QP setter - Select at least two from each unit)

1. Source-Sink Relationship - ఉత్పత్తి - వినియోగ కేంద్రాల సంబంధము
2. Macro nutrients - స్థూల పోషకాలు
3. Brassinosteroids - బ్రాసి నో స్టెరోయిడ్స్
4. Salt stress - లవణ గండత (ద్రుతి బలము)
5. Somaclonal variants - సోమ క్లనల్ వేరియంట్స్
6. B.T. - బి.టి.
7. Seed certification - విత్తన పరిశుభ్రీకరణ
8. Mist chamber - మిస్ట్ ఛాంబర్
9. Diffusion - వ్యాపనం
10. Explants - విచ్ఛేదన ప్లాంట్స్

SECTION - B 4 x 5 = 20M

Answer Any FOUR of the following

(Note to QP setter - Select at least one from each unit)

11. Stomatal Movement - పత్ర బిందు చలన యంత్రణము.
12. Biological Nitrogen Fixation - జీవ సత్రజని స్థాపన.
13. Micropropagation - మైక్రో ప్రొపాగేషన్
14. Methods of Breaking Dormancy - విత్తన సుప్తావస్థను తొలగించే పద్ధతులు.
15. Photoperiodism - కాంతి కాలంపరిచయం
16. Floriculture - Trade in India - భారతంలో ఫ్లోరికల్చర్ ట్రేడింగ్.

GVRangaRao

SECTION - C. marks = 60H.

Answer All Questions -

17. A) Explain the C₃ assimilation in C₃ plants
C₃ మొక్కలలో కార్బన్ నష్టాన్ని తగ్గించే విధానంను వివరించండి.

(08)
B) Explain the Mechanism of Enzyme action.
ఎంజైముల చర్య యుగళకాన్ని వివరించండి.

18. A) "Pentose-phosphate-pathway" - Explain.
పెంటోస్-ఫాస్ఫేట్-మార్గము - వివరించండి.

(08)
B) Explain β -oxidation of fatty acids.
ఫాటీ ఆమ్లాల β -ఆక్సిడేషన్ మార్గాన్ని వివరించండి.

19. A) Give an account of Somatic hybridization.
"శాకీయ సంకరణం" గురించి వ్రాయండి.

(08)
B) "rDNA Technology" - Explain
"రుసెంజెనెటిక్ టెక్నాలజీ" - వివరించండి.

20. A) Give an account of Horticultural techniques for Vegetable crops.
కూరగాయ పంటలలో వేర్వేరు పద్ధతుల విధానం గురించి వ్రాయండి.

(08)
Enumerate the vegetative propagation of plants
మొక్కలలో శాకీయ ప్రత్యక్ష విధానాలను గురించి వివరించండి.
(Propagation)

(note to QP setter - 17th Question from - I unit - physiology part A
18th Question from - II unit - physiology part B
19th Question from - III unit - Tissue culture & biotechnology
20th Question from - IV unit - seed technology and Horticulture.

**KRISHNA UNIVERSITY , MACHILIPATNAM B.Sc. DEGREE EXAMINATIONS,
MARCH/APRIL 2013**

MODEL QUESTION PAPER

Part-II BIOCHEMISTRY (Examination at the end of third year)

PAPER-III: Physiology, Clinical Biochemistry and Immunology

Time: 3hrs

Max. Marks: 100

Part-A

(Two questions are to be set from each unit)

Answer all the questions

Each question carries 5 marks 8X5 = 40

Write short notes on

1. Neurotransmitters.
2. Parathyroid hormone.
3. Kwashiorkar and Marasmus.
4. Vitamin-E
5. Thalassemias.
6. Glucose tolerance test.
7. Monoclonal antibodies.
8. ELISA.

Part-B

(Two questions are to be set from each unit)

Answer any four questions

Each question carries 15 marks 4X15 = 60

9. a.) Describe the structure of myofibril and discuss the mechanism of muscle contraction?
or
b.) Explain the mechanism of hormonal action and add a note on anterior pituitary Hormones?
10. a.) Define BMR? Discuss the factors affecting the BMR?
or
b.) Describe the structure, biochemical role and deficiency disorders of vitamin-A?
11. a.) Discuss the biochemical parameters for the differential diagnosis of jaundice?
or
b.) i) Discuss different renal function tests to evaluate function of kidneys? 8M
ii) Discuss the serum enzyme marker to evaluate heart diseases? 7M
12. a.) Explain the structure of IgG and add a note on clonal selection theory?
or
b) Write a short notes on
i.) Immunoprecipitation. -5M
ii) Graft rejection. -5M
iii) Recombinant vaccines. -5M

**KRISHNA UNIVERSITY , MACHILIPATNAM B.Sc. DEGREE EXAMINATIONS,
MARCH/APRIL 2013
MODEL QUESTION PAPER**

Part-II BIOCHEMISTRY (Examination at the end of third year)

PAPER-IV: Microbiology and Molecular Biology.

Time: 3hrs

Max. Marks: 100

Part-A

(Two questions are to be set from each unit)

Answer all the questions

Each question carries 5 marks 8X5 = 40

Write short notes on

1. Gram's staining
2. Prions.
3. Okazaki fragments.
4. RNA-Splicing.
5. Wobble Hypothesis.
6. Attenuation.
7. Restriction Endonucleases.
8. Southern Blotting.

Part-B

(Two questions are to be set from each unit)

Answer any four questions

Each question carries 15 marks 4X15 = 60

- 9.a.) i.) Discuss different growth media for Bacterial culture? -8M
ii.) Explain the Bacterial growth curve and kinetics? – 7M
or
b.) i.) Discuss the Lysogenic life cycle in λ phage – 8M
ii.) Write a brief note on retrovirus-HIV – 7M
- 10.a.) Describe the two classical experiments which demonstrate the semiconservative mode of DNA replication?
or
b) Discuss the transcriptional events in prokaryotes m-RNA synthesis?
11. a.) i.) Explain the Khorana's experiment in deciphering the genetic code? -8M
ii.) Discuss the post translation modifications? – 7M
or
b.) Explain regulation of prokaryotes gene expression with Lac operon as example?
- 12.a.) Discuss how the DNA sequencing can be done by using the enzymatic method?
or
b.) Write a brief note on
i.) c-DNA libraries. – 5M
ii.) BLAST and FASTA. – 5M
iii.) HRT and HART. – 5M

KRISHNA UNIVERSITY , MACHILIPATNAM MARCH/APRIL 2013
Part-II BIO-TECHNOLOGY (Examination at the end of third year)

Model Question Paper

3rd year B.Sc, Degree Examination

Paper-III: Molecular Biology, Genetic Engineering and Immunology

Time: 3 hours

Marks: 100

SECTION – A

Answer any FIVE Questions

(5X8 = 40)

1. Types of Repetitive DNA Sequences.
2. Organelle genome
3. Capping of mRNA
4. Genetic code
5. Shuttle vectors
6. Genetic Markers
7. Genomic Libraries
8. MHC

SECTION – B

Answer All the Questions

(4X5 =60)

9. (a). Explain the Organization of nuclear genome in Eukaryotic cells.
(or)
(b). Give an account of the genome organization in Mitochondria and Chloroplast?
- 10 (a). Give a brief description of the organization and regulation of lactose operan.
(or)
(b). Describe the transcription of the prokaryotic with a neat labeled diagram.
- 11 (a). What are Restriction Endonucleases and give an account of the different kinds of Restriction Endonucleases.
(or)
(b). What is PCR. Explain and summarize the application of PCR.
- 12 (a). Describe the structure of the Antibody and explain the different classes of Antibodies.
(or)
(b). Explain the mechanism involved in generation of Antibody diversity.

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KRISHNA UNIVERSITY , MACHILIPATNAM MARCH/APRIL 2013
Part-II BIO-TECHNOLOGY (Examination at the end of third year)

Model Question Paper

3rd year B.Sc, Degree Examination

Paper-IV: Applications of Biotechnology

Time: 3 hours

Marks: 100

SECTION – A

Answer any FIVE Questions

(5X8 =40)

1. Animal cell culture Media
2. Virus free plants
3. Antibiotics
4. Bioreactors
5. Cell disaggregation
6. Sterilization
7. Biofertilizers
8. Bioremediation

SECTION – B

Answer All Questions

(4X5 =60)

- 9 (a). Explain the establishment and preservation of cell lines.
(or)
(b). Write a note on *In vitro* fertilization and embryo transfer technology.
- 10 (a). Discuss the role of plant growth regulators in dedifferentiation and redifferentiation.
(or)
(b). Describe the various methods of gene transfer.
- 11 (a) Give an account on screening, isolation and preservation of industrially important microorganisms.
(or)
(b). Write about Intellectual property rights and patenting issues.
- 12 (a). Explain the process of Industrial waste water treatment.
(or)
(b). Give a note on Non-conventional fuels and their impact on environment.


u/3/2/10

Guide lines for the Paper Setters:

- ☒☒ Each of the four Sections (25 marks) of the question paper should have the questions (both essays & short notes) only from each of the respective four Units of the prescribed syllabus.
- ☒☒ The questions should convey the same meaning in both Telugu and English media.
- ☒☒ Any part of essay question should not be repeated as short notes or vice versa.
- ☒☒ Scope and hours allotted for the topic, and the time required for answering should be taken into consideration while setting a question.
- ☒☒ The question paper should cover the entire syllabus with due weightage within each unit.

**KRISHNA UNIVERSITY , MACHILIPATNAM B.Sc. DEGREE EXAMINATIONS,
MARCH/APRIL 2013
MODEL QUESTION PAPER
Part II - Zoology (2012-2013 onwards)**

**Paper IV: Applied Zoology - Fisheries, Aquaculture, Clinical Science & Biotechnology
(Model Question Paper)**

Time: Three hours

Answer All Questions

Maximum: 100 marks

Draw neat diagrams wherever necessary.

SECTION A (Fisheries)

(25 marks)

1. (a) Give an account of Freshwater Fishery resources of India. 17
Or
(b) Write an essay on processing and preservation of Cishes.
2. Write short notes on **ONE** of the following: 8
(a) Mariculture
(b) Fishing Craft

SECTION B (Aquaculture)

(25 marks)

3. (a) Write an essay on management of the Shrimp pond. 17
Or
(b) Describe the process of induced breeding in Major carps.
4. Write short notes on **ONE** of the following: 8
(a) Cage culture
(b) Transport of shrimp seed

SECTION C (Clinical Science)

(25 marks)

5. (a) Give an account of ABO blood groups in man and add a note on Transfusion problems. 17
Or
(b) Describe the structure and clinical significance of *Entamoeba histolytica*.
6. Write short notes on **ONE** of the following: 8
(a) Biopsy
(b) Malaria

SECTION D (Animal Biotechnology)

(25 marks)

7. (a) Explain the production and importance of the Transgenic fish. 17
Or

(b) Describe in detail the process of Gene cloning.

8. Write short notes on **ONE** of the following:

8

(a) Role of Biotechnology in human health

(b) Parkinson's disease

Guide lines for the Paper Setters:

- Each of the four Sections (25 marks) of the question paper should have the questions (both essays & short notes) only from each of the respective four Units of the prescribed syllabus.
- The questions should convey the same meaning in both Telugu and English media.
- Any part of essay question should not be repeated as short notes or vice versa.
- Scope and hours allotted for the topic, and the time required for answering should be taken into consideration while setting a question.
- The question paper should cover the entire syllabus with due weightage within each unit.