

MAHATMA GANDHI UNIVERSITY KOTTAYAM

V SEMESTER – MGU-UGP- PRACTICAL EXAMINATION MODEL QUESTIONS 2026

B.Sc (HONS) BIOLOGICAL TECHNIQUES & SPECIMEN PREPARATION

MG5DSCBTS300- DEVELOPMENTAL BIOLOGY

TIME: 2HRS

MAX MARKS:35

- I. Dissect and display OR identify the reproductive system of Cockroach. [U](CO1)**
 - a) Dissection and display or identification (4marks)**
 - b) Sketch and label (2marks)**
- II. Write down the principle and procedure of vital staining (2marks) [K][CO3]**
- III. Identify the fertility of egg and write down the procedure. (2marks) [U][CO1]**
- IV. Determine the fecundity of given fish. Write down calculation and result (5 marks) [U] [CO3]**
- V. Answer the following (2.5 Mark each) [U] [CO3]**
 - a) Identify, sketch and label the parts**
 - b) Identify and write short notes on the technique**
- VI. CERTIFIED RECORD-10 marks[K] [CO1] [CO3]**
- VII. VIVA- 5 Marks[K] [CO1] [CO3]**

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU- UGP (HONOURS)
FIFTH SEMESTER EXAMINATION- PRACTICAL
MG5DSCBTS301
MOLECULAR BIOLOGY
2024 ADMISSION ONWARDS

Time: 2 hours

Total:35 marks

PART A (25 marks)

1.Isolation of genomic DNA from given sample (10 marks) (U/CO3)

- a) Principle & Procedure (6 marks)**
- b) Loading of DNA sample (2 marks)**
- c) Result and interpretation (2 marks)**

2. Isolation of plasmid DNA (4 marks) (K/CO3)

- a) Principle & Procedure (4 marks)**

3.Comment on the following (6 marks) (K/CO3)

- a) Identify and comment on given spotters (2 marks)**
- b) Identify and comment on the given instrument (2 marks)**
- c) Identify the given spotters and comment (2 marks)**

4. Viva - 5 marks (U/CO3)

PART B (10 marks)

1.Record - 10 Marks (K/CO3)

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MGU-UGP- ZOOLOGY (HONOURS) V SEMESTER PRACTICAL EXAMINATION 2026
MODEL QUESTION PAPER (2024 Admission onwards)
MG5DSCZGY 300, MG5DSCZIM300
ANIMAL DIVERSITY CHORDATA II

Duration: 2 hrs.

Maximum Marks: 35

Certified Record – 10 Marks

Part A - [Skill] [CO 4]

I. Identify the dissection. Sketch and label the parts . Comment on (8 marks)

Identification of Pecten and Hyoid of Bird ($\frac{1}{2}+\frac{1}{2}=1$ mark)

Sketch and label the parts (2+2=4 marks)

Comment on ($1\frac{1}{2}+1\frac{1}{2}=3$ marks)

Part B - [Skill] [CO 4]

**II. Identify, sketch and label (Any one bone of Bird and Any one bone of mammal)
($2\frac{1}{2}+2\frac{1}{2}=5$ marks)**

**(Bird- Heterocoelous vertebra/Synsacrum/ pygostyle/ keel and sternum;
Mammals- Skull with special reference to dentition (Diastema/Carnassial teeth)/
vertebrae/ pectoral girdle/ pelvic girdle; Identification $\frac{1}{2}$ mark; sketch and label 2
marks)**

OR

**Identify and comment on (Any one bone of Bird and Any one bone of mammal)
($2\frac{1}{2}+2\frac{1}{2}=5$ marks)**

**(Bird- Heterocoelous vertebra/Synsacrum/ pygostyle/ keel and sternum;
Mammals- Skull with special reference to dentition (Diastema/Carnassial teeth)/
vertebrae/ pectoral girdle/ pelvic girdle; Identification $\frac{1}{2}$ mark; comment on 2 marks)**

Part C - [Understand] [CO 4]

**III. Identify by the Common name and write Scientific name (Any 3 birds and 3 mammals
in India) (Identification by the common name - $\frac{1}{2}$ mark, Scientific name - $\frac{1}{2}$ mark)**

(3+3=6 marks)

Part D-Understand] [CO 4]

IV. Identify the labelled parts and write notes on

(3+3=6 Marks)

- a) Any four parts of the arterial system of bird or mammal using pictures
(Identification -2 marks; Notes -1mark)**
- b) Any four parts of the Heart or Kidney of rabbit using photograph/picture
(Identification -2 marks, Notes-1mark)**

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-UGP- ZOOLOGY (HONOURS) V SEMESTER PRACTICAL EXAMINATION 2026
MODEL QUESTION PAPER (2024 Admission onwards)
MG5DSCZGY301- CELL BIOLOGY AND MOLECULAR BIOLOGY

Duration: 2 hrs.

Maximum Marks: 35

Certified Record – 10 Marks

Part A [Skill] [CO-5]

I. Squash preparation of onion root tip (10 marks)

Preparation and identification of any two mitotic stages (3+3=6 marks)

Comment on (1+1=2 marks)

Sketch and label the parts (1+1=2 marks)

OR

Prepare human blood smear (10 marks)

Preparation and identification of any two leucocytes (3+3=6 marks)

Comment on (1+1=2 marks)

Sketch and label the parts (1+1=2 marks)

II. Prepare a smear of human buccal epithelium and identify the Barr body and Comment on (2+2=4 marks)

Part B [Understand] [CO-5]

III. Write down the procedure involved in DNA isolation (3marks)

Part C [Understand] [CO-5]

IV. Identify and comment on:(Any 2- Cell organelles/meiotic stages using slides or diagrams; Identification- ½mark; comment -1½ marks) (2x2=4marks)

V. Identify and write notes on:(Any 2- Molecular composition / structural orientation / functional significance of DNA, DNA replication, RNA different types, Polytene chromosomes using models or diagrams; Identification- ½mark; comment -1½ marks)

(2x2=4marks)

MAHATMA GANDHI UNIVERSITY, KOTTAYAM

MGU-UGP (HONOURS)

FIFTH SEMESTER PRACTICAL EXAMINATION

(2024 ADMISSION ONWARDS)

MG5DSCZIM302- FOOD AND DAIRY MICROBIOLOGY

Duration :2 hr

Maximum Marks:35

Certified Record - 10 Marks

1) Isolation of organism from idli batter

[An] [CO4] 6 Marks

Principle & Procedure

3 Marks

Observation & Result

3Marks

2) Perform Methylene Blue Reduction Test

[An] [1] 6 Marks

Principle & Procedure

3 Marks

Performance & Result

3 Marks

3) Identify the given spotters

[U] [CO1] (2x4=8 Marks)

a)Identify the given organism

b)Identify the given instrument

c)identify the given product

d)Identify the given media

4) Viva based on Industrial Visit

[U] [CO1] 2 Marks

5) Report

[U] [CO1] 3 Marks