

**BOWEN UNIVERSITY**  
**COLLEGE OF HEALTH SCIENCES**  
**ANATOMY PROGRAMME**  
**2020/2021 FIRST SEMESTER EXAMINATION**

ANA 201 (Upper Limbs)

Time Allowed: 3Hours.

Instruction: ANSWER ALL QUESTIONS

1. With the aid of a schematic diagram, write an essay on the brachial plexus (10 Marks)
  2. Write short notes on the following:
    - a. Cubital fossa (4 Marks)
    - b. Carpal tunnel (4 Marks)
    - c. Anatomical snuff box (2 Marks)
  3. Describe the gross anatomy the mammary gland (10 Marks)
  4. Write short notes on the following:
    - a. Wrist joint (3 Marks)
    - b. Elbow joint (3 Marks)
    - c. Ossification of the clavicle (4 Marks)
  5. Write an essay on the Axilla (10 Marks)
  6. Discuss the anatomy of the following:
    - a. Humerus (4 Marks)
    - b. Ulna (3 Marks)
    - c. Scapula (3 Marks)
  7. Write short notes on the dermatomes and blood supply to the upper limb (10 marks)
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4. (a). What are the barriers which the sperm have to penetrate before fusing with the -  
and how does the sperm overcome these barriers?  
(b). What are the ...

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**FACULTY OF BASIC MEDICAL AND HEALTH SCIENCES**  
**DEPARTMENT OF ANATOMY**  
**2020/2021 FIRST SEMESTER EXAMINATION**

COURSE: ANA 203 – GENERAL EMBRYOLOGY

Date: 23/03/2021

Time: 3 Hrs

Instruction: Answer all questions

1. (a). Define the following terms as used in embryology:  
(i) Primitive. (ii) Definitive. (iii) Differentiation. (iv) -genesis. (v) para-  
(b). State the differences between the prophase of mitosis and the prophase of meiosis I  
(c). During a routine pre-implantation genetic diagnosis for a set of four blastomeres, two were discovered to have 48 chromosomes while two had 44 chromosomes. State the possible cause.
2. (a). List the different parts of a mature spermatozoon and corresponding organelles in the spermatid that develops into them.  
(b). Discuss the process of oogenesis
3. (a). Enumerate the changes in the follicular cells in the course of the ovarian cycle  
(b). State the functions of the corpus luteum  
(c). Mention the hormones directly involved in the ovarian cycle
4. (a). What are the barriers which the sperm have to penetrate before fusing with the ovum, and how does the sperm overcome these barriers?  
(b). What are the functions of the zona pellucida?  
(c). State the clinical implications of (i) premature hatching of the blastocyst,  
(ii) failure of the blastocyst to hatch
5. Write short notes on  
(a). The formation of the chorionic villi  
(b). The decidua

5 marks

6 marks

3 marks

5 marks

9 marks

8 marks

4 marks

2 marks

6 marks

4 marks

4 marks

8 marks

6 marks



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ANATOMY PROGRAMME**

**FIRST SEMESTER 2020/21 EXAMINATION**

**COURSE CODE: ANA 205      COURSE TITLE: GENERAL HISTOLOGY**

**Time Allowed: 2 Hours**

**INSTRUCTIONS: ANSWER ANY FIVE QUESTIONS**

1. Draw a well labeled eukaryotic cell, giving functions of at least 5 organelles **10 marks**
2. Compare and contrast mitosis and meiosis **10 marks**
3. Describe any five epithelial cells and give examples of where they are found **10 marks**
4. Classify connective tissue, give examples of where they can be found **10 marks**
5. Classify neuroglial cells under the following category: cell type, origin, location and function **10 marks**
6. Write briefly on the types of fibers of the skeletal muscles **10 marks**

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**FIRST SEMESTER EXAMINATION, 2020/2021 ACADEMIC SESSION**

**GENETICS – ANA 207**

**TIME: 1½ HOUR.**

**INSTRUCTION: Answer FOUR questions only.**

1. Draw a well labelled chromosome and classify the chromosome types you know.
2. List 5 samples for cytogenetic analysis and highlight 5 common reasons for the postnatal analysis.
3. List the basic composition of DNA and enumerate the mRNA types you know.
4. Write briefly on threshold liability.
5. Write an essay on gene therapy.

(b) State the type of stain that can be used to stain the following structures

- i. Glycogen
- ii. Myelin
- iii. Amyloid fibrils
- iv. Lipoproteins
- v. Iron deposits
- vi. Adipose tissues

3. Describe the process of embalming under the following headings
  - a. Equipment needed
  - b. Chemicals used
  - c. Route of administration

20 Marks

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DEPARTMENT OF ANATOMY**

**FIRST SEMESTER EXAMINATION (2020/21 SESSION)**

**ANA 401 (ADVANCED DEVELOPMENTAL ANATOMY) 3 CREDITS**

**Date: 24<sup>th</sup> March, 2021**

**Time Allowed: 1 ½ hrs**

**Instructions: Answer ALL QUESTIONS.**

Well labeled diagrams **where appropriate** increases your chance of getting additional marks.

1. a) Define In Vitro Fertilization (2 Marks)  
b) Highlight FIVE (5) scenarios where IVF may be a preferred process (5 Marks)  
c) Write a short essay on the processes involved in In-Vitro fertilization (10 Marks)  
d) Briefly explain "Ovarian Hyperstimulation Syndrome" (OHSS) (3 Marks)  
e) Briefly explain "Gamete intrafallopian transfer (GIFT)" (2.5 Marks)  
f) Briefly explain "Zygote intrafallopian transfer (ZIFT)" (2.5 Marks)
  
2. a) What are Teratogens? (3 Marks)  
b) Highlight the SIX (6) Principles of Teratology as discussed by Jim Wilson (12 Marks)
  
3. a.) List 3 Social Drugs that can be teratogenic (3 Marks)  
b) Write a short essay on EACH of the THREE (3) social drugs mentioned in Question 3a above (12 Marks)
  
4. a) What is Mutagenesis? (3 Marks)  
b) Describe how "Ämes Test" can be carried out (12 Marks)

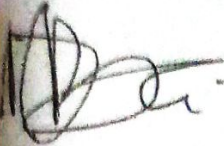


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**2020/2021 SECOND SEMESTER EXAMINATION**

COURSE: ADVANCED MICROSCOPY TECHNIQUES (ANA 406)      Time: 3Hrs

INSTRUCTION: Read the questions carefully and provide the answer in the answer booklets provided. Questions 4 & 5 are compulsory and ANY other TWO.

1. Discuss the human eye as a model for microscope design comparing five parts of both instruments. (20 Marks)
  
2. Discuss the principles, features and applications of any two of the following microscopes (20 Marks)
  - a) Electron Microscope
  - b) Fluorescent Microscope
  - c) Polarized light Microscope
  - d) Atomic Force Microscope
  
3. Discuss the following nature of light
  - a) Interaction of light with matter
  - b) Reflection and Refraction
  - c) Mention the three essential attributes of the lens system for microscopy.
  
4. Describe the Carbon Test Slide Experiment (20 Marks)
  
5. Write notes on objective lenses in compound microscopes under the following heading (10 Marks)
  - a) Classification
  - b) Inscriptions/Markings on the body
  - c) Manufacturers

  
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**2020/2021 FIRST SEMESTER EXAMINATION**

Course Code: ANA 305 (SYSTEMIC EMBRYOLOGY II)

Time: 2Hrs

**Instruction:** Read the questions carefully and provide the answer in the answer booklets.

1. The gonadal ridge undergoes changes in respect to the sex cords. Discuss how these changes lead to the development of each the following:
- (c) i. the indifferent gonad. ii. the testis. iii. the ovary
  - (d) Add short notes on the role of genes and hormones in gonadal differentiation

**25 Marks**

2. The differential growth of the abdominal wall causes the kidney to ascend to the lumbar. State briefly


- (c) The major events during the ascent of the kidney
- (d) The clinical implications associated with the ascent of the kidney

**20 Marks**

Outline the role of the mesonephric and paramesonephric ducts in the formation of the ducts of the following

- a. Male reproductive system.
- b. Female reproductive system
- c. Urinary system.

**25 Marks**

  
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**ENTREPRENEURIAL ANATOMY 3-CREDITS UNIT (ANA 307)**

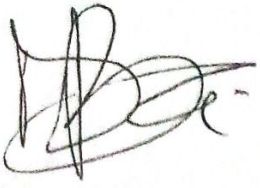
**FIRST SEMESTER EXAMINATION 2020/2021 ACADEMIC SESSION**

**Instruction: Answer any four questions.**

**2 HOURS**

1. Advertisement is a tool in marketing, discuss its roles in Entrepreneurial anatomy. 20Marks
2. Nigeria as a country has been experiencing perennial financial quagmire. Discuss how to fund your business as an entrepreneurial anatomist. 20Marks
3. Discuss how to set up a photomicrography business as entrepreneurial anatomist. 20Marks
4. Discuss how to set up a funeral home service in your locality. 20Marks
- 5i. List 5 safety precautions to prevent hazards in the laboratory. 5Marks
- 5ii. Highlight 4 basic steps in S10 technique. 10Marks
- 5iii. List 5 equipment in plastination laboratory. 5Marks





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**ENTREPRENEURIAL ANATOMY 3-CREDITS UNIT (ANA 307)**

**FIRST SEMESTER EXAMINATION 2020/2021 ACADEMIC SESSION**

**Instruction: Answer any four questions.**

**2 HOURS**

1. Advertisement is a tool in marketing, discuss its roles in Entrepreneurial anatomy. 20Marks
2. Nigeria as a country has been experiencing perennial financial quagmire. Discuss how to fund your business as an entrepreneurial anatomist. 20Marks
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**ENTREPRENEURIAL ANATOMY 3-CREDITS UNIT (ANA 307)**

**FIRST SEMESTER EXAMINATION 2020/2021 ACADEMIC SESSION**

**Instruction: Answer any four questions.**

**2 HOURS**

1. Advertisement is a tool in marketing, discuss its roles in Entrepreneurial anatomy. 20Marks
2. Nigeria as a country has been experiencing perennial financial quagmire. Discuss how to fund your business as an entrepreneurial anatomist. 20Marks
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**2020/2021 Second Semester Examination**

**Course Code:** ANA 304 (Neuroanatomy)    **Credit Unit:** 2 Credits    **Time Allowed:** 2 Hours

**INSTRUCTION:** Answer ALL questions

1. With aid of diagrams discuss the anatomical basis of features seen in four (4) spinal canal syndrome discussed in class. (20 Marks)
2. With aid of three (3) diagrams highlight the differences in positions and dispositions of fibres and nuclei in the medulla oblongata (20 Marks)
3. Discuss the applied anatomy of the light pathway. (10 Marks)
4. Draw and label a diagram of the internal capsule indicating correctly the positions of fibres contained in it. (10 Marks)
5. Write on sulci and gyri in the superolateral surface of the cerebrum. (10 Marks)

6. Describe the procedure involved in immunohistochemistry/cytochemistry (15 Marks)
7. Discuss the stains for proteins and amino acids (15 Marks)

**BOWEN UNIVERSITY, IWO**

**ANATOMY PROGRAMME**

First semester 2020/2021 Examination (Part A)

ANA 405 (Advance Gross Anatomy)

INSTRUCTION: ANSWER ANY 5 QUESTIONS

TIME: 2 HOUR, 30 MINUTES

1. Highlight differences between central and peripheral nervous systems
2. Describe one modern method of studying human anatomy
3. Describe the applied anatomy of a synovial joint
4. Highlight pitfalls of plastinated bodies over cadaveric dissection
5. Outline the supraspinal control of skeletal movement
6. A patient was involved in vehicular accident sustaining a fracture in the right leg. Describe the bony structure affected.

(D) Man

4. Compare and contrast the gastrointestinal tract of man, bird and goat
5. With the aid of labeled diagrams only show the comparative anatomy of the eye of man and eagle



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ERP EXAMINATION 2020/2021 SESSION  
ANA 402: VETERBRATE COMPARATIVE ANATOMY 3 Credits  
INSTRUCTIONS: ANSWER ALL QUESTIONS. TIME: 3 HOURS

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1. In tabular form, compare Hydra, Wistar rat, Monkey and man under the following headings:
  - (A) Symmetry
  - (B) Body layer
  - (C) Body cavity(coelome)
  - (D) Level of organization
  - (E) Body frame work (skeleton)
  
2. In table form compare and contrast the heart and types of circulation as found in fish and man.
  
3. Discuss courtship behaviour and the mode of fertilization in:
  - (A) Toad
  - (B) Lizard
  - (C) Cock
  - (D) Man
  
4. Compare and contrast the gastrointestinal tract of man, bird and goat
  
5. With the aid of labeled diagrams only show the comparative anatomy of the eye of man and eagle

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**2020/2021 Second Semester Examination**

**Course Code:** ANA 404 (Evolution)    **Credit Unit:** 3 Credits    **Time Allowed:** 3 Hours

**INSTRUCTION:** Answer questions **ONE (1)** and **TWO (2)** and **ANY** other **TWO**.

1. a. What is evolution? **(5 Marks)**  
b. Mention two ways in which Evolution indicate our relatedness. **(5 Marks)**  
c. Discuss three philosophies of evolution before Charles Darwin's era **(10 Marks)**
2. What is often called "Darwin's theory of evolution" actually includes five theories (Mayr 1982a) discuss. **(20 Marks)**
3. a. Define biodiversity? **(5 Marks)**  
b. Discuss three types biodiversity. **(5 Marks)**  
c. Describe three terms used in measuring biodiversity **(5 Marks)**
4. a. What is Tree of Life? **(5 Marks)**  
b. With the aid of diagrams describes in detail the phylogenetic tree. **(10 Marks)**
5. a. What is genetic drift, give examples. **(5 Marks)**  
b. Discuss two types of genetic drift with examples. **(10 Marks)**

... of the glenoid fossa of temporal bone