

**BOWEN UNIVERSITY, IWO
COLLEGE OF HEALTH SCIENCES
ANATOMY PROGRAMME
FIRST ANATOMY INCOURSE 2021/2022 SESSION**

TIME ALLOWED: 2 HOURS

INSTRUCTIONS: Answer **ALL** questions. Well labelled diagram will enhance your marks.

Date: 28/03/2022

1. (a) From our discuss in class, classify epithelium based on the following:
 - i. Number of cell layer **(2 marks)**
 - ii. Shape of cell **(2 marks)**
 - iii. Surface specialization at free surface **(2 marks)**(b) Highlight four characteristics that make a tissue epithelium **(2 marks)**
(c) What are goblet cells and where are they found? **(2 marks)**

2. (a) Write on stationary and migratory cells of the connective tissue **(6 marks)**
(b) List **FOUR** (4) applied anatomy of connective tissue **(2 marks)**
(c) State **FOUR** (4) functions of the connective tissue **(2 marks)**

3. Kiki, a 21-year-old lady was screened out of the world women football cup Competition because her buccal smear was chromatin negative
 - (a) Why was she screened out?
 - (b) What could be her karyotype?
 - (c) She was diagnosed of a chromosomal aberration, what is it likely to be?
 - (d) Sketch non-disjunction in second meiotic division in a male
(10 marks)

4. A reading frame of a DNA is as follows; ATGGTACCCTAC
 - (a) Write the template strand, mRNA and protein formed
 - (b) If at position 5 and 6, "T"A" are replaced by "G"C" respectively. What is the resultant template strand, mRNA, and protein formed.
 - (c) State the type of mutation that occur in (b) above.
(10 marks)

		Second letter				
		U	C	A	G	
First letter	U	UUU } Phe UUC } UUA } Leu UUG }	UCU } UCC } Ser UCA } UCG }	UAU } Tyr UAC } UAA Stop UAG Stop	UGU } Cys UGC } UGA Stop UGG Trp	U C A G
	C	CUU } CUC } Leu CUA } CUG }	CCU } CCC } Pro CCA } CCG }	CAU } His CAC } CAA } Gln CAG }	CGU } CGC } Arg CGA } CGG }	U C A G
	A	AUU } AUC } Ile AUA } AUG Met	ACU } ACC } Thr ACA } ACG }	AAU } Asn AAC } AAA } Lys AAG }	AGU } Ser AGC } AGA } Arg AGG }	U C A G
	G	GUU } GUC } Val GUA } GUG }	GCU } GCC } Ala GCA } GCG }	GAU } Asp GAC } GAA } Glu GAG }	GGU } GGC } Gly GGA } GGG }	U C A G

5. Enumerate the changes in the endometrium during the menstrual cycle (10 marks)
6. Write short notes on the formation of
 - (a). The extraembryonic mesoderm (5 marks)
 - (b). The amniotic cavity (5 marks)
7. a. Write a short note on all of the following
 - a. Carpal tunnel
 - b. Cubital fossa
 - c. List the content of the axilla
 - d. List factors responsible for instability of the shoulder joint (10 marks)
8. Describe the venous drainage of the upper limbs (10 marks)

BOWEN UNIVERSITY, IWO
COLLEGE OF HEALTH SCIENCES
ANATOMY PROGRAMME
THIRD ANATOMY INCOURSE 2021/2022 SESSION

TIME ALLOWED: 2 HOURS

INSTRUCTIONS: Answer **ALL** questions, **Sections A & D** in one booklet and **Section B & C** in the same booklet as well. Well labelled diagram will enhance your marks.

SECTION A

1. A 30 years old woman gave birth to a fresh stillbirth at 38weeks gestational age. The pregnancy history showed that the woman had low amniotic fluid. Post mortem examination of the child showed absent of right and left kidneys
 - a. What congenital anomaly is this? [2mks]
 - b. Outline the embryological basis of this abnormality [6mks]
 - c. Why did the child died at birth? [2mks]
2. A 19-year-old lady complained to the doctor because she has never menstruated before. Ultrasonography showed absent of uterus and its adnèxia.
 - a. What congenital anomaly is this? [2MKS]
 - b. What is the embryological basis of this abnormality [6MKS]
 - c. What is the likely or specific gender of this child [2MKS]

SECTION B

3. Describe the three main branches of the abdominal aorta stating their vertebral levels, branches and structures they supply (10 Marks)
4. Tabulate the differences between the jejunum and ileum (10 Marks)

SECTION C

5. Describe the ischio-rectal fossa and its contents (10 Marks)
6. Give a detailed lymphatic drainage of the internal genitalia (10 Marks)

SECTION D

7. A. Describe the histology of the Nephron
B. Mention the type of epithelium lining the urinary bladder (10 Marks)
8. A. Describe the microscopic features of the ovary
B. Describe three (3) histological differences between proliferative and secretory endometrium (10 Marks)

BOWEN UNIVERSITY
COLLEGE OF HEALTH SCIENCES
FACULTY OF BASIC MEDICAL SCIENCES
DEPARTMENT OF ANATOMY

300L MBBS FOURTH EXAMINATION 2021/2022 SESSION 25/07/2022
INSTRUCTIONS: ANSWER ALL QUESTIONS PAPER II (ESSAY) TIME: 2 HOURS

1. Draw and annotate the transverse section through the spinal cord at the level of T8 [10 MKS]
2. Describe the applied anatomy of the visual pathway [10 MKS]
3. Discuss the gross anatomy of the posterior triangle of the neck with a well labeled diagram under the following headings; boundaries , divisions , content and clinical anatomy [10 MKS]
4. Highlight the lymphatic drainage of the face and scalp add a note on its relevant applied anatomy [10 MKS]
5. A 3-month old baby has a conspicuous small head
 - a. What condition is usually associated with an abnormally small head? [2 MKS]
 - b. How does growth of the cranium depend on growth of the brain? [3 MKS]
 - c. What environmental factors can cause the abnormality? [5 MKS]
6. Write on the development of cranial nerves [10 MKS]
7. A. Write an essay on degeneration and regeneration of neurons [5 MKS]
B. Briefly write on membrane potentials and synaptic communication within the nervous system [5 MKS]
8. David Palmer complained of inability to maximally utilize his right hand. He often sways to the right side while walking with poor gait. He could not do rapid pronation and supination of his right forearm. Magnetic resonance imaging showed a tumor in his right lobe of the cerebellum
 - a. Which cerebellar function(s) have been lost to give rise to above symptoms? [2 MKS]
 - b. Name the peduncles of the cerebellum [3 MKS]
 - c. Succinctly write on the histology of the part of the brain affected and highlighting the layers in it [5 MKS]

BOWEN UNIVERSITY
COLLEGE OF HEALTH SCIENCES
FACULTY OF BASIC MEDICAL SCIENCES
DEPARTMENT OF ANATOMY

200L SECOND IN-COURSE EXAMINATION 2021/2022 SESSION 20/06/2022
INSTRUCTIONS: ANSWER ALL QUESTIONS. PAPER II (ESSAY) TIME: 2 HOURS

1. A 24hours old neonate was born in a hilly village in Adamawa state at 35weeks gestational age. She was admitted in neonatal intensive care unit, and was found to have difficulty in breathing with bluish coloration of the palate and lips. She was diagnosed to have a congenital heart defect. The doctor gave indomethacin and she became better after few weeks.

- a) What congenital abnormality is this? [2mks]
- b) Highlight its embryologic basis [3mks]
- c) State the etiological factors in this condition [2mks]
- d) Why was indocid given? [3mks]

2. a. List **5 (five)** derivatives of the midgut [5mks]

b. Briefly **explain** any **two (2)** congenital anomalies associated with the development of the integumentary system [5mks]

3. Discuss the Gross anatomy of intercostal space using a well labeled diagram. Add a note on the applied anatomy [10mks]

4. a. List the lobes and segments of the lungs [5mks]

b. Write short note on conducting system of the heart [5mks]

5. Highlight all the branches of femoral artery [5mks]

6. a. What ligaments strengthen the hip joint and from what direction? [4mks]

b. Mention the nerves that innervate the muscles around the hip joint [6 mks]

7. a. What is the relationship between immunological reactions in the heart and difficulty in breathing

b. Highlight the importance of the fibrous skeleton of the heart

c. What differentiates muscular arteries from elastic arteries, histologically? [10 mks]

8. a. Histologically why would you advise someone to quit smoking?

b. How does the pathogen trapping system in the bronchioles lead to respiratory failure in individuals with cystic fibrosis?

c. Describe the respiratory epithelium [10 mks]

BOWEN UNIVERSITY, IWO
COLLEGE OF HEALTH SCIENCES,
ANATOMY PROGRAMME
1ST IN-COURSE EXAMINATION, MAY, 2021

Paper II (Essay)

INSTRUCTION: Answer ALL Questions

Time Allowed: 3 Hours

1. a. List 5 indications for invitro fertilization. (5 marks)
b. Highlight 5 common reasons for postnatal genetic analysis. (5 marks)
2. Write briefly on threshold liability. (10 marks)
3. Highlight steps involved in tissue preparation and processing for light microscopy. (10 marks)
4. Outline different types of surface epithelia with examples. (10 marks)
5. a. Classify neurons based on morphology, state their locations (5 marks)
b. List glial cells in the Central and Peripheral Nervous Systems (5 marks)
- 6 a. Define is fertilization? (2 Marks)
b. State the outcomes/results of fertilization? (8 Marks)
7. With the aid of a diagram, describe the structure of the follicle at ovulation (10 Marks)
8. Give an outline of the gross anatomy of the mammary glands (10 Marks)
9. List factors/features that contribute to:
 - iii. Stability of the gleno-humeral joint (5 Marks)
 - iv. Instability of the gleno-humeral joint (5 Marks)
10. a. Describe the Anatomy of the supraclavicular part of the brachial plexus (4 Marks)
b. Explain Anatomical basis of (i). Erb's palsy (2 Marks) (ii). Klumpke's Paralysis (2 Marks)
iii. Wrist Drop (2 Marks)

BOWEN UNIVERSITY, IWO.
COLLEGE OF HEALTH SCIENCES,
DEPARTMENT OF ANATOMY
3RD IN COURSE EXAMINATION, MAY, 2021

Paper II (Essay)

INSTRUCTION: Answer ALL Questions

Time Allowed: 3 Hours

1. a) Discuss the embryological differentiation of Metanephros (6 Marks)
b) Write short notes on any TWO (2) congenital malformations of the kidneys (4 Marks)
2. Discuss the development of the testes (10 Marks)
3. a) Discuss the supports of the Uterus (5 Marks)
b) Describe the structures of the Vulva. (5 Marks)
4. a) Write on the Gross Anatomy of the Testes. (7 Marks)
b) Describe the course of the testicular artery using a clear diagram. (3 Marks)
5. A 300-level medical student was presented to clinic with a diagnosis of irritation of the parietal peritoneum, causing the pain to localize to the right lower quadrant. The attending physician instructed the student to flex the thigh at the hip, the test was positive as the patient reported lower abdominal pain, due to the contraction of iliopsoas group of muscles which come into contact with the inflamed appendix, producing pain.
 - a) State the variable location of the appendix. (2 Marks)
 - b) What is the role of McBurney incision in appendicectomy (4 Marks)
 - c) Write a short note on the triangle of Calot and its significance. (4 marks)
6. a) Using four parameters, differentiate between the gross features of the jejunum and the ileum (5 marks)
b) Describe briefly the gross anatomy of the biliary tree. (5 marks)
7. a) What type of gland is the mammary gland? (1 Mark)
b) Using an annotated diagram, describe the histology of the inactive and active breast (4 Marks)
c) Enumerate the various cell types found in the gastric glands (5 Marks)
8. a) What factors influence testicular functions (3 Marks)
b) Mention the functions of Sertoli cells (3 Marks)
c) Highlight any four differences in the parotid, submandibular and sublingual glands (4 Marks)
9. a) Describe the components of the filtration barrier (8 Marks)
b) Write a short note on the renal interstitium (2 Marks)

BOWEN UNIVERSITY, IWO
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF ANATOMY
SECOND IN-COURSE EXAMINATION 2020/2021 SESSION
Paper II (Essay)

Allowed: 3 Hours

Instruction: Answer ALL Questions

Discuss the glutei muscle (10 marks)

Highlight the steps involved in the locking and unlocking of the knee joint (8 marks)

Describe briefly shin splints (2 marks)

What are the contents of greater sciatic foramen? (4 marks)

Mention the motor and sensory functions of the nerves in the lumbar plexus (6 marks)

Give detailed differences between the Right and Left bronchi. (10 marks)

Describe the arrangement of pleural membrane. (10 marks)

Give detailed anatomy of the Right Ventricle. (10 marks)

Highlight the histology of epithelial layers of the thick skin. (5 marks)

List chemical factors responsible for changes in skin colour. (5 marks)

State histological differences between artery and vein. (10 marks)

Using well labelled diagrams, explain the processes involved in the partitioning of the primordial atrium (10 marks)

List 5 (five) derivatives of the midgut (5 Marks)

Briefly explain any two (2) congenital anomalies associated with the development of the integumentary system (5 Marks)

BOWEN UNIVERSITY, IWO
COLLEGE OF HEALTH SCIENCES
ANATOMY PROGRAMME
FOURTH INCOURSE 2020/2021 ACADEMIC SESSION

INSTRUCTION: ANSWER ALL QUESTIONS

3 HOURS

1. Describe the four spinal cord syndromes discussed in class. Explain the anatomical bases of the feature seen. 10 Marks
2. In tabular form, describe the 12 cranial nerves under the following headings. Name of the nuclei, location of nuclei, type of fibres (mixed, sensory and motor), attachment to CNS, and applied anatomy. 10 Marks
3. a) In a tabular form, list the derivatives of the 2nd pharyngeal arch 7 Marks
b) A middle-aged man presents at the clinic with a unilateral swelling on the neck, lateral and anterior to the sternocleidomastoid. On histological examination, the tissue is found to be lined by stratified squamous epithelium.
 - i. What is the possible cause of this swelling? 2 Marks
 - ii. How can the swelling be treated? 1 Mark
4. Using only diagrams, describe the formation of the neural tube. 10 Marks
5. Raymond Reddington complained of inability to work properly with his right hand. He usually sways to the right side while walking. He could not do rapid pronation and supination of his right forearm. Magnetic resonance imaging showed a tumor in his right lobe of the cerebellum.
 - a) Which cerebellar function(s) have been lost to give rise to above symptoms? 2 Marks
 - b) Name the peduncles of the cerebellum 3 Marks
 - c) Succinctly write on the histology of the part of the brain affected and highlighting the layers in it 5 Marks
6. Write an essay on degeneration and regeneration of neurons (10 marks)
7. Describe the formation, location, branches and areas of supply of the arterial circle of Willis. 10 Marks
8. Describe the location, relations, vasculature and one applied anatomy of thyroxine secreting gland. 10 Marks
9. Describe the boundaries, contents and foramina of the middle cranial fossa. 10 Marks
10. Mr Ajenikoko has obstructive airway above the voicebox. Small incision is made in the midline of _____ ligament an endotracheal tube is inserted to secure the airway.
 - a. Name the ligament where the incision is made? 1Mark
 - b. Name the innervation to the corresponding name muscle? 1Mark
 - c. Highlight the vascular supply of the voicebox? 8Marks

BOWEN UNIVERSITY, IWO
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF ANATOMY

FOURTH IN-COURSE ESSAY EXAMINATION

ANSWER ALL QUESTIONS TIME ALLOWED: 3 HOURS

1. Mr Amugbelusi received a direct blow to the side of the face which result in his inability to close his mouth. Plain radiograph revealed displacement of the head of mandible from the mandibular fossa of the temporal bone.
 - i. Name the dislocation. (1 Mark)
 - ii. Highlight the gross anatomy of the affected joint. Using the format articular surface, joint capsule, ligaments, movements and neurovasculature. (9 Marks)


2.
 - i. Write on the boundaries and contents of the carotid triangle (5 Marks)
 - ii. What is the anatomical basis of congenital torticollis? (4 Marks)
 - iii. Which bone is fractured in strangulation by compression of the throat? (1Mark)

3. Write on the thyroid gland under the following headings:
 - i. Function, location and shape (2 Marks)
 - ii. Relations (5 Marks)
 - iii. Arterial blood supply (3 Marks)

4. Draw and label in detail a diagram of the arterial circle of Willis (10 Marks)

5. Explain the anatomical basis of neurological deficits observed in:
 - i. Anterior cord Syndrome (2.5 Marks)
 - ii. Tabes Dorsalis (2.5 Marks)
 - iii. Brown-Sequard Syndrome (2.5 Marks)
 - iv. Complete Cord Transection (2.5 Marks)

6. With at least 3 diagrams give a synopsis of sulci and gyri of the cerebrum (10 Marks)

7. Highlight the differences amongst these 3 neurate tube defects; Spina Bifida Occulta, Meningocele and Meningomyelocele (10 Marks)


8. Write a short note on the development of the Rhombencephalon (10 Marks)

9.
 - i. Highlight the histological layers of the neocortex and their prominent neurons (7.5 Marks)
 - ii. list 5 neurodegenerative diseases (2.5 Marks)

10.
 - i. Describe the cellular elements and the circuitries of the molecular layer of the cerebellum (7.5 Marks)
 - ii. List the components of the cerebellar glomerulus (2.5 Marks)