

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATION
RESIT/SUPPLEMENTARY / SPECIAL EXAMINATIONS
EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE
(NURSING)**

NURU 111: HUMAN ANATOMY I

STREAMS: BSc Nursing-upgrading

TIME: 2 HOURS

DAY/DATE: TUESDAY 10/08/2021

8.30 A.M - 10.30 A.M.

INSTRUCTIONS TO CANDIDATES

- Do not write anything on the question paper.
- Mobile phones and any other reference materials are **NOT** allowed in the examination room.
- The paper has three (3) Sections. **ALL** the questions are compulsory
- Your answers for Section A (MCQs) should be on the first page of the answer Booklet.
- Number **ALL** your answers and indicate the order of appearance in the space provided in the cover page of the examination answer booklet.

SECTION A: MULTIPLE CHOICE QUESTIONS (20 Marks)

1. The rough endoplasmic reticulum(RER):
 - a) Is the site of protein synthesis
 - b) Is enclosed by a phospholipid bilayer
 - c) Is continuous with the nuclear envelope
 - d) Occupy 10% of thee cell volume
2. The most component of the plasma membrane associated with the outer leaflet only is:
 - a) Phospholipid
 - b) Protein
 - c) Cholesterol
 - d) Glycocalyx
3. The nucleolus is:

- a) Prominent in actively dividing cells
 - b) Enclosed by a lipid bilayer
 - c) Actively involved in protein synthesis
 - d) Present in all cells
4. Reproductive and somatic cell divisions are different in that in somatic cell division:
- a) Four daughter cells are formed
 - b) Cytokinesis begins at metaphase
 - c) Haploid cells are formed
 - d) Replication of DNA occurs before prophase
5. Concerning nitrogenous bases in nucleic acids:
- a) Adenine pairs with thymine in RNA
 - b) Guanine is larger than cytosine
 - c) Projects from the phosphate group in a DNA chain
 - d) Guanine and cytosine are paired together by a double hydrogen bond
6. The type of point mutation resulting in a premature termination of polypeptide chain is:
- a) Missense
 - b) Nonsense
 - c) Silent
 - d) Disjunction
7. The tissue that arises from all the three primary germ layers is:
- a) Epithelial
 - b) Connective
 - c) Muscular
 - d) Nervous
8. The epithelium associated with the digestive tract is:
- a) Pseudostratified ciliated columnar
 - b) Transitional
 - c) Non ciliated columnar
 - d) Non-keratinized stratified squamous
9. The connective tissue that surrounds and protects a myocyte/myofibril is:

- a) Epimysium
 - b) Endomysium
 - c) Fascia
 - d) Perimysium
10. Unitary smooth muscles are found in the
- a) Uterus, iris
 - b) Stomach, intestines
 - c) Blood vessels, iris
 - d) Ciliary muscle, uterus
11. Pleurae and peritoneum are examples of _____ membrane.
- a) Serous
 - b) Mucus
 - c) Synovial
 - d) Cutaneous
12. Osteocytes are mature bone cells that maintain the bone matrix. They are found in the:
- a) Lamellae
 - b) Lacunae
 - c) Canaliculi
 - d) Haversian system
13. Type of neuron associated with the special sense organs is:
- a) Multipolar
 - b) Pseudounipolar
 - c) Bipolar
 - d) Anaxonic
14. The most abundant neuroglia in the peripheral nervous system is:
- a) Epidymal
 - b) Satellite
 - c) Astrocyte
 - d) Oligodendrocyte
15. The most common site of implantation is:
- a) Uterine body

- b) Fallopian tube
 - c) Uterine fundus
 - d) Ovaries
16. The hormone responsible of ovulation is:
- a) Follicle stimulating
 - b) Luteneizing
 - c) Estrogen
 - d) progesterone
17. Which of the following correctly describes sperm capacitation:
- a) Release of acrosin enzymes
 - b) Removal of glycoprotein layer on the sperm head
 - c) Acquisition of sperm motility
 - d) Fusion of the sperm with the secondary oocyte
18. Ovulated oocyte is surrounded by a layer of follicular cells called:
- a) Cumulus oophorus
 - b) Zona pellucida
 - c) Corona radiata
 - d) Theca interna
19. Structures that arise from the embryonic mesoderm of the gastrula include the:
- a) Muscles
 - b) Brain
 - c) Epithelium
 - d) Inner ear
20. The bud that forms the structures of the lower respiratory system is the:
- a) Lung
 - b) Laryngotracheal
 - c) Bronchial
 - d) Alveolar

SECTION B: SHORT ANSWER QUESTIONS (35 Marks)

1. Enumerate five (5) structural features of a mitochondrion (5 marks)
2. Explain the three(3) components of the cytoskeleton (6 marks)
3. Explain the two(2) types of glands giving an example of each (5 marks)
4. Explain the two (2) layers of the basement membrane (4 marks)
5. Enumerate five (5) types of cells found in the connective tissue indicating the function of each (5 marks)
6. Draw a well labeled diagram of a mature spermatozoa (5 marks)
7. Outline the five(5) temporary structures found in the fetal circulation (5 marks)

SECTION C: LONG ANSWER QUESTIONS (15 Marks)

1. There are four (4) types of tissues with connective tissue being one of the most abundant. These tissues are made of cells connected by cell junctions.
 - a) Describe two (3) cell junctions (5 marks)
 - b) Explain the five(5) types of mature connective tissue giving an example where each is found (10 marks)
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