

UNIVERSITY OF FORT HARE

**ANIMAL BIOLOGY
BIO 121**

DEGREE EXAMINATIONS

NOVEMBER

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Time: 2hrs

Subject: BIO 121

Marks: 100

This paper consists of 11 pages including the cover page

Internal Examiners

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INSTRUCTIONS

Answer ALL questions.

READ instructions on the Multiple Choice Answer Sheet

On the ANSWER SECTION use ONLY an HB-pencil to complete it

- 1) The sexual phase of *Plasmodium* takes place inside a _____.
 - a) liver.
 - b) blood cell.
 - c) human being.
 - d) mosquito.
 - e) human hand.
- 2) Polymorphism refers to _____.
 - a) pseudopodia and sessile.
 - b) cilia and flagellum.
 - c) polyps and medusae.
 - d) epidermis and gastrodermis.
 - e) polyps and hydra.
- 3) An infected female mosquito bites a human, injecting saliva that contains *Plasmodium* _____.
 - a) merozoites.
 - b) sporozoites.
 - c) gametozoites.
 - d) spermatozoites.
 - e) zygozoites.
- 4) *Euglena* shape is maintained by _____.
 - a) cell membrane.
 - b) chloroplast.
 - c) flagellum.
 - d) chlorophyll.
 - e) pellicle.
- 5) _____ are aquatic animals that strain food from water.
 - a) Detrivore feeders.
 - b) Herbivore feeders.
 - c) Omnivore feeders
 - d) Carnivore feeders
 - e) Filter feeders
- 6) _____ refers to balanced proportions in shape and size of parts on opposite sides of a median plane.
 - a) Cephalisation
 - b) Symmetry
 - c) Segmentation
 - d) Metamerism
 - e) Biology
- 7) Cnidarians are diploblastic; with two layers _____.
 - a) epidermis and gastrodermis, with tentacles.
 - b) epidermis and gastrovascular, with mesoglea.
 - c) endodermis and gastrodermis, with mesoglea.
 - d) endodermis and exodermis, with mesoglea.
 - e) epidermis and gastrodermis, with mesoglea.
- 8) Ingesting of food particle by *Amoeba* is known as _____.
 - a) pinocytosis.
 - b) phagocytosis.
 - c) exocytosis.
 - d) foodcytosis.
 - e) pseudocytosis.
- 9) Ingesting of liquids or droplets by *Amoeba* is known as _____.
 - a) pinocytosis.
 - b) phagocytosis.
 - c) exocytosis.
 - d) foodcytosis.
 - e) pseudocytosis.
- 10) A female _____ mosquito is responsible for transmitting malaria in humans.
 - a) *Sporozoan*.
 - b) *Plasmodium*.
 - c) *Paramecium*.
 - d) *Anopheles*.
 - e) *Merozoites*.

- 11) Examples in Class Hydrozoa, include ___
- Hydra, Obelia, Physalia*
 - Hydra, Obelia, Carybdea*
 - Hydra, Obelia, Metridium*
 - Hydra, Obelia, Telia*
 - Hydra, Obelia, Chironex*
- 12) ___ is no longer considered a class in Phylum Porifera.
- Class Calcarea
 - Class Demospongiae
 - Class Sclerospongiae
 - Class Hexactinellida
 - Class Sponges
- 13) Eucoelomate bilateral animals possess a true coelom lined with _____.
- endoderm
 - mesentery
 - mesodermal organ
 - mesodermal peritoneum
 - mesoderm
- 14) All organisms have only ___ scientific name(s).
- two
 - three
 - one
 - various
 - many
- 15) _____ is the opposite or tail end of an animal.
- Sagittal plane
 - Posterior
 - Anterior
 - Ventral
 - Dorsal
- 16) Binomial nomenclature is a two-part scientific naming system with _____ and _____ name.
- genus and species.
 - genus and kingdom.
 - genus and order.
 - genus and family.
 - genus and phylum.
- 17) *Euglena* have an eyespot that permits them to swim toward _____
- shelter
 - food
 - sun
 - prey
 - light
- 18) _____ is a characteristic of Phylum Cnidaria.
- interstitial cavity
 - gastrovascular cavity
 - buccal cavity
 - body cavity
 - invertebrate cavity
- 19) Classification of the Phylum Cnidaria includes:
- Anthozoa, Scyphozoa, Hydrozoa, Cubozoa
 - Anthozoa, Scyphozoa, Hydra, Cubozoa
 - Anthozoa, Hexacorallia, Hydrozoa, Cubozoa
 - Anthozoa, Ceriantipatharia, Hydrozoa, Cubozoa
 - Anthozoa, Octocorallia, Hydrozoa, Cubozoa
- 20) Three subclasses of Class Anthozoa
- Hexacorallia, Ceriantipatharia , Scyphozoa
 - Hexacorallia, Ceriantipatharia , Hydrozoa
 - Hexacorallia, Ceriantipatharia , Octocorallia
 - Hexacorallia, Ceriantipatharia , Cubozoa
 - Hexacorallia, Ceriantipatharia , Anthozoa
- 21) Both polyp and medusae stages are represented in Class _____.
- Hydrozoa
 - Anthozoa
 - Scyphozoa
 - Cubozoa
 - Octocorallia
- 22) Class _____ are the true jelly fish.

- a) Hydrozoa
b) Anthozoa
c) Scyphozoa
d) Cubozoa
e) Octocorallia
- 23) Most sponges (classes) belong to this class (90%) and are found on the continental shelf.
a) Class Calcarea
b) Class Demospongiae
c) Class Sclerospongiae
d) Class Hexactinellida
e) Class Sponges
- 24) In _____ the medusa stage is emphasised.
a) Class Hydrozoa
b) Class Scyphozoa
c) Class Cubozoa
d) Class Anthozoa
e) Phylum Cnidaria
- 25) _____ has a bell-shaped medusae square in cross section, with a tentacle or a group of tentacles at each corner.
a) Class Hydrozoa
b) Class Scyphozoa
c) Class Cubozoa
d) Class Anthozoa
e) Phylum Cnidaria
- 26) Subclass Opisthobranchia includes _____.
a) sea slugs, sea hares, sea butterflies and canoe shells.
b) sea slugs, sea hares, oysters and canoe shells.
c) sea slugs, sea hares, sea butterflies and limpets.
d) sea slugs, sea hares, sea butterflies and mussels.
e) sea slugs, clams, sea butterflies and canoe shells.
- 27) Roundworms belong to Phylum ____
a) Nematoda.
b) Annelida.
c) Mollusca.
d) Platyhelminthes.
e) Arthropoda.
- 28) Trematoda are also known as ____
a) monogenetic flukes.
b) trematodic flukes.
c) polygenetic flukes.
d) digenetic flukes.
e) trigenetic flukes.
- 29) Class Turbellaria includes the following Orders: _____
a) Cestoda, Tricladida and Polycladida.
b) Acoela, Tricladida and Polycladida.
c) Trematoda, Tricladida and Polycladida.
d) Platyhelminthes, Tricladida and Polycladida.
e) Monogenea, Tricladida and Polycladida.
- 30) _____ is a powerful anticoagulant that is found in the salivary glands of leeches.
a) Hirudo
b) Hiroshima
c) Hirogo
d) Hirudin
e) Hirudinea
- 31) A _____ attaches Cestodes to the inside of their host.
a) strobila
b) scolex
c) proglottid
d) neck
e) tegument
- 32) Class Hirudinea are usually ____
a) oligoecious.
b) acoloecious.
c) polyecious.
d) dioecious.
e) monoecious.
- 33) In Class Hirudinea, each metamere consists of several ____
a) ocelli.

- b) proglottids.
 c) septa.
 d) annuli.
 e) suckers.
- 34) Class Polyplacophora use _____
 to scrape algae off rocks
 a) parapodia
 b) teeth
 c) radula
 d) septa
 e) tentacles
- 35) Individual segments in Cestodes are
 called _____
 a) rostellum.
 b) strobila.
 c) scolex.
 d) proglottids.
 e) suckers.
- 36) Class Oligochaeta are usually

 a) oligoecious.
 b) acoloecious.
 c) polyecious.
 d) dioecious.
 e) monoecious.
- 37) Flatworms belong to Phylum _____
 a) Nematoda.
 b) Annelida.
 c) Mollusca.
 d) Platyhelminthes.
 e) Arthropoda.
- 38) Flatworms rely on _____ for
 respiration and excretion.
 a) diffusion
 b) stylets
 c) parasitism
 d) gut
 e) hermaphroditism
- 39) What is the head of the adult tapeworm
 called?
 a) Scolex
 b) Rostellum
 c) Opisthaptor
- d) Proglottid.
 e) Strobila.
- 40) In molluscs; the _____ burrow
 through wood, including docks and
 ships.
 a) snailworms
 b) shipworms
 c) shipslugs
 d) oysters
 e) mussels
- 41) Segmented worms belong to Phylum

 a) Nematoda.
 b) Annelida.
 c) Mollusca.
 d) Platyhelminthes.
 e) Arthropoda.
- 42) A scolex attaches Cestodes to the inside
 of their host followed by a neck and a

 a) segment.
 b) ocelli.
 c) strobila.
 d) rostellum.
 e) suckers.
- 43) Turbellarians are _____ flatworms
 that live in marine and fresh water.
 a) parasitic
 b) free-living
 c) endoparasitic
 d) detritivorous
 e) ectoparasitic
- 44) Flukes are _____ flatworms that infect
 internal organs of their host.
 a) parasitic
 b) free-living
 c) scavenging
 d) detritivorous
 e) herbivorous
- 45) The muscular tube near the mouth of a
 flatworm that aids in getting food is
 called the _____
 a) stylets.

- b) pharynx.
 c) cuticle.
 d) pseudocoel.
 e) gut.
- 46) Do tapeworms have a digestive tract?
 a) Yes
 b) Maybe
 c) I don't know
 d) No
 e) I'm not sure
- 47) Classification of Phylum Annelida includes the following classes _____
 a) Polychaeta, Oligochaeta and Cestoda.
 b) Polychaeta, Oligochaeta and Hirudinea.
 c) Polychaeta, Oligochaeta and Bivalvia.
 d) Polychaeta, Oligochaeta and Cephalopoda.
 e) Polychaeta, Oligochaeta and Gastropoda
- 48) A few gastropods; _____ and _____, are terrestrial.
 a) slugs and oysters
 b) oysters and snails
 c) clams and snails
 d) slugs and clams
 e) slugs and snails
- 49) This large class of marine annelids shows great diversity.
 a) Class Polychaeta
 b) Class Gastropoda
 c) Class Hirudinea
 d) Class Oligochaeta
 e) Class Cephalopoda
- 50) Nematodes have _____ only.
 a) longitudinal muscles
 b) circular muscles
 c) strong muscles
 d) round muscles
 e) square muscle
- 51) Which of the following is characteristic of chordates?
 a) dorsal, hollow nerve cord.
 b) notochord.
 c) pharyngeal gill slits
 d) b and c .
 e) all of the above.
- 52) What is Paleontology?
 a) the study of comparative anatomy.
 b) the study of skeletons.
 c) the study of "Age of Fishes"
 d) the study of fossils.
 e) the study of "Age of Reptiles".
- 53) Cephalochordates _____
 a) live partially buried on soft bottoms where they filter feed using tentacles.
 b) have a totally sessile stage.
 c) lack an anus
 d) possess only one of the chordate characteristics.
 e) none of the above.
- 54) Some agnathans _____.
 a) parasitize the gills of fish.
 b) are scavengers.
 c) can live in freshwater
 d) live on muddy bottoms.
 e) all of the above.
- 55) Acorn worms _____.
 a) are classified in the phylum Chordata.
 b) live and swim in the pelagic zone.
 c) are mainly deposit feeders
 d) have larvae that are similar to fish.
 e) all of the above.
- 56) . Urochordates _____.
 a) are terrestrial organisms.
 b) have functional jaws.
 c) have tadpole larvae
 d) have incurrent and excurrent siphons for filter feeding.
 e) only c & d.

- 57) Cephalochordates _____.
- Attach to rocks where they filter feed using tentacles.
 - have a sessile stage as adults and a free-swimming stage as juveniles.
 - lack an anus
 - are typically found near hydrothermal vents.
 - none of the above.
- 58) Hagfish are examples of _____.
- jawed fishes.
 - an extinct assemblage of fish.
 - jawless fishes
 - bony fishes.
 - fishes ground up and used for 'Petrol' or fuel in Scandinavia.
- 59) The claspers of cartilaginous fishes are used for:
- clasping onto prey.
 - clasping onto the sediment.
 - reproduction
 - propulsion.
 - balance.
- 60) Identify which Class(es) of the Subphylum Vertebrata have cartilaginous representatives:
- Amphibian.
 - Chondrichthyes.
 - Agnatha
 - Osteichthyes.
 - All of the above.
- 61) Which group of external characteristics obviously play a role in distinguishing between primitive and advanced fish representatives of Class Osteichthyes
- paired fins.
 - vertebral bones.
 - lateral scales
 - body colours.
 - none of the above.
- 62) Lobed fins are _____.
- Also known as claspers in sharks.
 - Found in teleosts.
 - shared characteristics between the crossopterygians and lungfishes
 - used by marine iguanas for swimming underwater.
 - ventrally-placed fenestra in each side of the cheek in reptiles.
- 63) Which of the following is not a characteristic of the class Chondrichthyes?
- Gill slits.
 - cartilaginous endoskeleton.
 - ventrally located mouth
 - ctenoid scales.
 - spiral valve intestine.
- 64) Tilapia belongs to which group of fish?
- elasmobranchs.
 - chimeras.
 - breamidae
 - agnathidae.
 - teleosts.
- 65) Which of the following is not one of the scale types found in fishes?
- placoid.
 - ctenoid.
 - cycloid
 - hexoid.
 - ganoid.
- 66) Spiracles _____.
- are larger in size in fast swimming sharks.
 - are specialized gas valves that regulate the swim bladder.
 - are respiratory openings located behind the eyes of sharks
 - are modified pelvic fins that act as reproductive structures.
 - is a good name for a poodle that likes to run in circles.
- 67) The operculum _____.
- encloses the gills of cartilaginous fishes
 - helps the muscles of the caudal (tail) fin to contract.

- c) is a hard, flat structure that protects the gills of bony fishes
 d) is a bone used to detect sensitive sounds in the water column.
 e) none of the above.
- 68) Which of the following is not a characteristic of the class Amphibia?
 a) Production of an anamniotic egg.
 b) notochord absent in adults.
 c) well-developed lungs
 d) non-moveable eyelids.
 e) toes with or without nails.
- 69) The development of limbs probably aided the first amphibians in _____
 a) finding mates
 b) swimming.
 c) running on land
 d) moving between bodies of water.
 e) feeding.
- 70) To facilitate cutaneous respiration, the skin of amphibians is:
 a) Moist and covered with scales.
 b) Dry and leathery.
 c) Dry and richly vascularised.
 d) Moist and richly vascularised.
 e) Dry and covered with scales.
- 71) _____ is the retention of larval characteristics, seen in some salamanders.
 a) paedomorphosis.
 b) viviparity.
 c) ovoviviparity.
 d) trophylaxis.
 e) tetraploidy.
- 72) Which of the following is not a characteristic of the class Reptilia?
 a) they are endothermic.
 b) they have scaly skin.
 c) they have well developed lungs
 d) they eat algae, invertebrates, and fish.
 e) none of the above.
- 73) Which of the following is not true of turtles?
 a) their shell has two parts: a plastron and carapace.
 b) their sex can be determined by examining the plastron and the location of the anus.
 c) their shells consists of scutes (plates).
 d) they use gills for breathing.
 e) they migrate from feeding to mating grounds.
- 74) Which of the following is not represented in the ocean?
 a) turtles.
 b) snakes.
 c) iguanas
 d) lizards.
 e) crocodiles.
- 75) By the late carboniferous, the amniotes had separated into three lineages which are
 a) Turtles, Sphenodon and Amphisbaenians.
 b) Turtles, The codonts and Ichthyosaurs.
 c) Anapsids, Synapsids and Diapsids
 d) Anapsids, Saurichians and Ichthyosaurs.
 e) Anapsids, Sphenodon and Lepidosaurians.
- 76) Based on fossil record the earliest known bird is
 a) Pterosaurs
 b) Archaeopteryx
 c) Theropod
 d) Nannopterum
 e) Ornithishians
- 77) Birds and crocodiles share which of the following characteristics?
 a) Ectothermy (body temperature regulated by environment).
 b) Body hair.
 c) Four-chambered heart
 d) Lung design.

- e) Light weight bones.
- 78) The skull in Birds consists of _____ occipital condyles
- One
 - Two
 - Three
 - Five
 - None
- 79) Which of these bones is not found in the lower jaw of birds
- Dentary bone.
 - Coronoid bone.
 - Surangular bone
 - Articular bone.
 - None of the above.
- 80) The Birds that are capable of flying are known as _____
- Neognathous
 - Paleognathous
 - Kiwi
 - None of the above
 - All of the above
- 81) Flight muscles of birds are attached to the
- keel of the sternum.
 - pelvic girdle.
 - clavicle
 - humerus
 - None of the above.
- 82) The different kinds of feathers found in birds are
- Contour feather, Down feather, and Bristles
 - Semiplumes, Filoplumes and Down feathers
 - Contour feathers, Down feathers, Semiplumes, Filoplumes and Bristles
 - Contour feathers, Filoplumes, Semiplumes and Bristles
 - Filoplumes, Bristles, and Down feathers
- 83) The body temperature derived from animal's own metabolism is termed as?
- Poikilothermy
 - Endothermy
 - Homeostasis
 - Homeothermy
 - None of the above
- 84) Stenophagous means
- Wide eating or omnivorous.
 - Narrow eating or specialized.
 - The regurgitation of food for chicks
 - The storage process of grinding food in birds stomachs.
 - The storage of food in the crop.
- 85) The red blood cells corpuscles in Birds are _____
- Non-nucleated
 - Nucleated
 - Both Nucleated and Non-nucleated
 - Foliated
 - None of the above
- 86) When a birds eyes are positioned forward, it allows
- Better wide vision.
 - Better vision when high in the sky.
 - The distinction between colours
 - Good night vision.
 - Better depth perception.
- 87) In birds the nitrogenous waste products of metabolism are eliminated in the form of
- Ammonia
 - Urea
 - Uric acid
 - ammonia and Urea
 - peptides
- 88) Egg-laying mammals
- Hatch fully developed young from their eggs.
 - Are monotremes.
 - Are hairless
 - Are confined to South America.

- e) Bear their young in permanent pouches.
- 89) Which of the following characteristics is not a diagnostic feature of birds?
- Possession of feathers.
 - Bones are pneumatized.
 - Possess a keratinized beak
 - Possess a fleshy ear or pinnae.
 - Forelimbs modified into wings and hind limbs adapted for walking, swimming or perching.
- 90) The skull in Mammals consist of _____ occipital condyles
- One
 - Two
 - Three
 - Five
 - None
- 91) Mammals, like birds have three fetal membranes, these are the
- Amnion, chorion, allantois.
 - Amnion, cloaca, allantois.
 - Pinnae, cloaca, allantois
 - Pinnae, chorion, malleus.
 - Amnion, chorion, malleus.
- 92) The integument bears many glands; the sebaceous glands fulfil what function?
- Lubrication.
 - Communication.
 - Thermoregulation
 - Milk production.
 - Fertilization.
- 93) Which order does not belong to the class Mammalia
- Monotremata.
 - Carnivora.
 - Lagomorpha
 - Dermaptera.
 - Sphenodon.
- 94) True horns are
- The same as antlers.
 - Restricted to males.
 - Not normally shed
- d) Usually branched.
- e) Seasonal and not continuously grown.
- 95) The following are the mode of feeding in the Class Mammalia except
- Carnivory
 - Herbivory
 - Sanguinivory
 - Nectarivory
 - Liquivory
- 96) How many infraclasses is the Subclass Theria made up of?
- 1.
 - 2.
 - 3
 - 4.
 - 5.
- 97) The integument of mammals consists of Sweat gland, Mammary gland, Scent and Sebaceous gland
- True
 - False
 - Complicated
 - Uncertain
 - None of the above
- 98) Which species does the Order Artiodactyla comprise? (i) elephant, (ii) wildebeest, (iii) kudu, (iv) zebra, (v) impala
- (ii), (iii) and (v) only.
 - (i), (ii) and (iv) only.
 - (i), (ii), (iii), (iv) and (v)
 - (i), (iii), (iv) and (v) only.
 - (ii), (iv) and (v) only.
- 99) Bats are the only mammals adapted to _____
- Running
 - Walking
 - Flying
 - Climbing
 - Swimming
- 100) Hairs are made up of _____ layers?

- a) 1.
- b) 2.
- c) 3
- d) 4.
- e) 5.

Remember to submit
both your answer
sheet together with
your question
paper!!!

