Virtual University of Pakistan

(zoo503)

(zoogeography & paleontology)

Midterms Past Papers solved

Email address

zoo503@vu.edu.pk

Course Instructor

(sir. Fahad Rafiq)

Created By Sadaf Parvez

Group of VU Biologists

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Solved MCCQs

Q1: Paleontology Originate from Greek word “Ontos” which means
(Creature)

Q2: Archaeopetyx is true missing link between
(Dinosaurs and Birds)

Q3: Trilobites dominated assemblages in England and Wales area were described by
(William Smith)

Q4: Fossils in Fold belts are, except
(In Excellent Shape)

Q5: Where an organism live matters in which of the filters is preservation of the complete fossil record
(Ecological Filters)

Q6: In Climate change in life history of earth has oscillated at least ---------- between icehouse and greenhouse conditions
(5 times)

Q7: Scala Naturae is ----------
(The Ladder of life)

Q8: When local ecological conditions affect the form of an organism during its life time and consequently fossil is called
(Ecophenotypic Effects)

Q9: Rohde and Muller (2005) argued that there is ---------- periodicity in mass extinctions
(62 myr)

Q10: Modification of the Oparin ---------- Haldane biochemical model is
(Hydrothermal Model)

Other MCQs..
Protozoan body plan...sponges..
Chromistan are except...protozoa..
Chelicerates are diverse and heterogeneous includes...a)mites .b)scorpian..c)spiderd)..all
Water vascular system in ...echinoderms
The group of gastropods...cenozoic
Fossil largest assemblagesof inadequate preserved fossils..

a) Fossil largersttaten are assemblage of?
b) vascular system is present in? echinoderms
c) chelicerate include? spiders,scorpions, all
d) acme group of gastropoda with neogastropods was in? paleozoic, mesozoic, phanerozoic

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e) belly-footed mollusks are?
f) parazoans body plan present in?
g) most advanced mollusks are?

b) Q1: Paleontology Originate from Greek word "Ontos" which means
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Questions:

Q1..island biogeography...2

Island biogeography is the study of the species composition and species richness on islands

Q2..nannoplankton..2

Defined as plankton less than 63 μm across, the smallest standard mesh size for sieves • Includes organicwalled and siliceous forms

Q3..sexual dimorphism...3

dimorphism, in which males and females may show different sizes, and different specialized features variations within species.

Growth stages, where there may be quite different larval and adult stages, or where body form alters during Variations Within the Species.

Ecophenotypic effects • Where local ecological conditions affect the form of an organism during its lifetime

Q5...oldest fossil n their ages..5

The oldest eukaryote fossil may be Grypania, • A coiled, spaghetti-like organism that has been reported from rocks as old as 1.85 Ga

The oldest locomotory trace fossils are from about 550 Ma northwest Russia • Fecal strings from rocks some 600 Ma suggesting

Bacteria in rocks up to 3.2 Ga, indicated by stromatolites

Q6..features of mollusca..5

The Phylum Mollusca can be traced back to at least the Late Precambrian, when Ki m b e r ell a

probably fed on algae in Ediacaran communities

Early Mollusks

Characterized by some short-lived, unusual forms • Molluskan features: mantle, mineralized shell and radula • Members of the small shelly fauna

Triploblastic body plan 3 marks

Seen in most other animal • Has three layers of tissues from the outside in: the ectoderm, mesoderm and endoderm.

5- Where on earth the oldest rock are formed? What are their ages. 5 marks

The oldest rocks are from Canada and are dated at 3.8–4 Ga, and some mineral grains from Australia have even been dated to 4.4 Ga

The archaeaneon: Lasted from about 4 to 2.5 Ga. • The oldest sedimentary rocks from the Isua Group in Greenland, dated at 3.8–3.7 Ga.

6- Deuterostomes 5 marks

"Second mouth" however, have a mouth arising from a secondary opening • True blastopore develops as anus • Echinoderm– Hemichordate Chordate (ppts)

Deuterostomia, (Greek: "second mouth"), group of animals—including those of the**phyla Echinodermata** (e.g., **starfish**, **sea urchins**), **Chordata** (e.g., **sea squirts**,**lancelets**, and **vertebrates**), **Chaetognatha** (e.g., arrowworms), and **Brachiopoda**(e.g., lamp shells)—classified together on the basis of embryological development (google)

What is paleontology(2)

The branch of science concerned with fossil animals and plants. • the study of fossils to determine organisms' evolution & ecology

4. How anatomic filters helps to preserve complete fossil record(3)

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Organisms are likely to be preserved only if they have hard parts, a skeleton of some kind. • Entirely soft-bodied organisms, such as worms and jellyfish, are only preserved in rare cases.

5. What are the four characteristics of phylum Mollusca(5)

Unsegmented soft body with bilateral symmetry.
Presence of an internal or external shell.
A toothed tongue (made mostly of chitin) called the radula.
A mantle which is a fold in the body wall that lines the shell.
Muscular foot (and/or tentacles in some).

(copied from google)

6. What are the big five mass extinction events(5)

During mass extinctions, 20–90% of species were wiped out; these include a broad range of organisms, and the events appear to have happened rapidly

It is difficult to study mass extinctions in the Precambrian • There have been a Neoproterozoic event between the Ediacaran and Early Cambrian faunas.

The "big five" Phanerozoic mass extinctions occurred in the

• End-Ordovician

• Late Devonian

• End-Permian

• End-Triassic

• End-Cretaceous

who introduce the concept of induction and explain it 2

Sir Francis Bacon • The enquirer might hope to see common patterns among the observations, and these common patterns would point to an explanation, or law of nature. Induction

2): define speciation and write name of two models2

Speciation often occurs by the establishment of a barrier, and the isolation of part of a previously interbreeding population.

"The process of splitting of a population to form two species is speciation ".

• The allopatric • ("other homeland") model

• The geographic model (based on the establishment of geographic barriers

3):write the name of animal groups who hits by end permian mass extinction event.3

The end-Permian mass extinction was the largest of all time • Probably caused massive volcanic eruptions, leading to acid rain and global anoxia.(ppts)

During the period a number of animal groups became extinct, including the trilobites, tabulate and rugose corals, and blastoids (see mass extinction). **Amphibians** and **reptiles** continued to

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be the dominant land animals and gymnosperms replaced ferns, clubmosses, and horsetails as the dominant **plants**. "Permian. (google)

Q2: What is micropaleontology? 2

A multidisciplinary science, focused on the study of microorganisms or the microscopic parts of larger organisms

Q4: What are the Trilobitomorpha? what are their different body parts? 3

Highly derived arthropods

• lack specialized mouthparts

• Tagmata comprising the cephalon, thorax and pygidium

• Trilobitomorph appendages

Mainly the trilobites and over 15,000 species are known

• Common: throughout the Paleozoic

• Extinction: end of the Permian

Q6: What is "Great Ordovician Biodiversification Event" (GOBE)? 5

Great Ordovician biodiversification event (GOBE), • Evolutionary radiation of animal life during the Ordovician Period, 40 my after the CE.

Followed a series of Cambrian– Ordovician Extinction events • Fauna went on to dominate the Palaeozoic • Marine diversity increased

Ordovician diversification generated witnessed a staggering increase in biodiversity at the family, genus and species levels.

What is biostratigraphy 2m

Biostratigraphy is the establishment of fossil based successions and their use in stratigraphic correlation • Biozones: The main operational units of a biostratigraphy

What is the known range of zone fossils 3m

The known range of a zone fossil is the time between its first and last appearances in a specific rock section, • First appearance datum (FAD) • Last appearance datum (LAD)

in polycheate, why the worms has a complete fossil record 3m

Record is enhanced by the relatively common preservation of elements of the phosphatic jaw scolecodonts. The earthworm, which has been around for **600 million years**, is spread across the earth and provides a basic biological model for many other species including humans came out top