

ENTRANCE EXAMINATION FOR ADMISSION, MAY 2013.

M.Sc. (MARINE BIOLOGY)

COURSE CODE : 373

Register Number :

*Signature of the Invigilator
(with date)*

COURSE CODE : 373

Time : 2 Hours

Max : 400 Marks

Instructions to Candidates :

1. Write your Register Number within the box provided on the top of this page and fill in the page 1 of the answer sheet using pen.
2. Do not write your name anywhere in this booklet or answer sheet. Violation of this entails disqualification.
3. Read each of the question carefully and shade the relevant answer (A) or (B) or (C) or (D) in the relevant box of the ANSWER SHEET using HB pencil.
4. Avoid blind guessing. A wrong answer will fetch you -1 mark and the correct answer will fetch 4 marks.
5. Do not write anything in the question paper. Use the white sheets attached at the end for rough works.
6. Do not open the question paper until the start signal is given.
7. Do not attempt to answer after stop signal is given. Any such attempt will disqualify your candidature.
8. On stop signal, keep the question paper and the answer sheet on your table and wait for the invigilator to collect them.
9. Use of Calculators, Tables, etc. are prohibited.

1. Metamerism in chordates is exemplified by the arrangements of
(A) Muscles (B) Blood vessels
(C) Nerves (D) All of the above

2. Cell theory was first forwarded by
(A) Schledian and Schwann (B) Robert Hooke
(C) William Harvey (D) None of these

3. Which of the following minerals is Necessary for the regeneration of Sponges?
(A) Ca and Na (B) Ca and Mg (C) Ca and Fe (D) Cu and Mg

4. Which is not a fish?
(A) Scoliodon (B) Electric ray (C) Whale (D) Sea horse

5. Dracunculus is transmitted to man by
(A) Fly (B) Mosquito
(C) Crustacea (D) Infected Cyclops

6. Islet of Langerhans are seen in
(A) Kidney (B) Pancreas (C) Ovary (D) Ileum

7. Branch of Zoology Dealing with the study of shell is
(A) Malacology (B) Parazoology (C) Conchology (D) Orinthology

8. The richest source of vitamin is
(A) Egg (B) Fish
(C) Green vegetables (D) None

9. The central part of a long bone is called
(A) Marrow (B) Lumen (C) Ostia (D) Lacuna

10. Molecule of haemoglobin is
(A) Dull red in colour (B) Orange red in colour
(C) Bright red in colour (D) Brown in colour
11. Blood is red but no RBC are found in
(A) Earthworm (B) Man (C) Rabbit (D) Frog
12. Which of following is ovoviviparous?
(A) Frog (B) Pigeon
(C) Duck billed platypus (D) Man
13. Stereoscopic vision is found in
(A) Snake (B) Man (C) Frog (D) Fish
14. Mutation is
(A) Small variations in nature (B) Large variation in nature
(C) Changes in organogenesis (D) Change in histogenesis
15. Diabetes insipidus is due to malfunction of
(A) LTH (B) STH (C) ADH (D) TSH
16. Oceans contains _____% of water
(A) 70 (B) 30 (C) 45 (D) 90
17. Which of the following would be easily fossilized?
(A) Skin (B) Tooth
(C) Heart (D) External ear
18. Heaviest atom among the four is
(A) Uranium (B) Lead (C) Mercury (D) Potassium

19. Gir Forest is known for its
(A) Tigers (B) Lions (C) Birds (D) Rhinoceros
20. Calvin cycle takes place in
(A) Chloroplast grana (B) Chloroplast envelope
(C) Chloroplast stroma (D) Mitochondria
21. Which of the following factor is considered to be one of the most important factors responsible for evolution?
(A) Mutation (B) Isolation or segregation
(C) Polyploidy (D) Lethality
22. Site of protein synthesis
(A) Cytoplasm (B) Ribosome
(C) Mitochondria (D) Lysosomes
23. Protozoan respire through
(A) Contractile vacuole (B) General surface
(C) Pseudopodia vacuole (D) None of these
24. DNA is
(A) Single stranded (B) Double stranded
(C) Single or double stranded (D) None of these
25. Completely heterotrophic sporophyte is found
(A) All liverworts (B) Riccia
(C) All mosses (D) Funaria
26. Carrier of genetic material is
(A) Ribosomal RNA (B) Transfer RNA
(C) Ribosomes (D) DNA

27. Flattened petiole that does the function of photosynthesis is
(A) Tendril (B) Cladode
(C) Phyllode (D) Phylloclade
28. Father of genetics
(A) Mendel (B) Morgan
(C) Darwin (D) Muller
29. Wood is a general term of
(A) Primary xylem (B) Secondary xylem
(C) Secondary vascular Elements (D) Vessels are absent
30. Vitamin C is generally called as
(A) Acetic acid (B) Carbolic acid
(C) Folic acid (D) Ascorbic acid
31. At temperature below freezing point an enzyme is
(A) Killed (B) Inactivated
(C) Slightly activated (D) Unaffected
32. Example of a living fossil
(A) Seahorse (B) Amphioxus
(C) Cray fish (D) Latimeria (Lobe-finned fish)
33. In unisexual plants, sex can be changed by application of
(A) Ethanol (B) Auxins (Ethylene)
(C) Cytokinins (D) ABA
34. Organism that lives on dead organic matter is called
(A) Saprophytes (B) Parasites
(C) Predators (D) Symbionts

35. Number of essential amino acids in our body is
 (A) 10 (B) 20 (C) 26 (D) 12
36. DNA differs from RNA
 (A) In having a double bond (B) In having thiamine
 (C) In having de-oxyribose (D) All the above
37. Liver is able to manufacture
 (A) Vitamin A (B) Vitamin K
 (C) Vitamin D (D) Vitamin C
38. Absence of _____ marks Porifera
 (A) Nervous system (B) Reproductive system
 (C) Respiratory system (D) Digestive system
39. Store house of malarial parasite in man's body is
 (A) Liver (B) Blood
 (C) Spleen (D) All the above
40. Genes are made of
 (A) Histones (B) Polynucleotides
 (C) Hydrocarbons (D) Lipoproteins
41. Simple Cell division is called
 (A) Mitosis (B) Meiosis
 (C) Binary fission (D) Mitosis and Meiosis
42. Asymmetry in gastropods is due to
 (A) Reduction of Coelum (B) Muscular foot
 (C) Torsion (D) Over growth

43. Breakdown of fatty acid is
- | | |
|--------------------|---------------|
| (A) Polymerization | (B) Addition |
| (C) Hydrolysis | (D) Oxidation |
44. Largest living mammal of the world is
- | | |
|----------------------|-----------------|
| (A) African Elephant | (B) Blue whale |
| (C) Giraffe | (D) Sperm whale |
45. In a sucker fish the sucker is a modification of
- | | |
|----------------|-----------------|
| (A) Dorsal fin | (B) Gill slit |
| (C) Mouth | (D) Ventral fin |
46. Fats in the body are stored under the skin as
- | | |
|--------------------|---------------------|
| (A) Lipoprotein | (B) Mucous layer |
| (C) Adipose tissue | (D) Lymphoid tissue |
47. The fertilization of ovum in mammals takes place in
- | | |
|---------------|--------------------|
| (A) Vagina | (B) Uterus |
| (C) Vestibule | (D) Fallopian tube |
48. The oldest era is
- | | |
|-----------------|----------------|
| (A) Palaeozoic | (B) Protozoic |
| (C) Archaeozoic | (D) Proteozoic |
49. Down syndrome is due to
- | |
|--|
| (A) Extra chromosome 21 st autosome |
| (B) Extra chromosome 17 th autosome |
| (C) Hormone deficiency |
| (D) Extra chromosome 13 th autosome |

50. Marsupials are characteristics of
 (A) North America (B) Asia
 (C) Australia (D) Africa
51. Islet of langerhans are seen in
 (A) Kidney (B) Pancreas (C) Ovary (D) Ileum
52. Minimata disease is related to
 (A) Methyl mercury (B) Pathogens
 (C) Oil spill (D) Nutrient deficiency
53. A spiral bacterium is called
 (A) Coccus (B) Bacillus
 (C) Diplococcus (D) None of these
54. The animal cell is surrounded by
 (A) A thin cell wall
 (B) A thick cell wall
 (C) A rigid membrane
 (D) A flexible membrane made largely of protein and fat.
55. Purine bases are
 (A) G&C (B) A&T (C) A&C (D) T &C
56. Fishes belonging to class dipnoi are commonly called as
 (A) Lung fishes (B) Mud puppies (C) Flying fishes (D) Globe fishes
57. Petromyzon is not a true fish because
 (A) It lacks median fins (B) it lacks paired fins
 (C) it lacks operculum (D) it has a circular mouth

58. The number of gills in a bony fish is
(A) 1 pair (B) 3 pair
(C) 5 pair (D) 4 pair
59. Heart is made up of
(A) Cardiac muscle (B) Longitudinal muscles
(C) Smooth muscle (D) Striated muscles
60. A molecule of haemoglobin is
(A) Dull red in colour (B) Orange red in colour
(C) Bright red in colour (D) Brown in colour
61. Viruses can be studied under
(A) Light microscopes (B) High powers of the light microscope
(C) Electron microscope (D) All of these
62. The green and purple sulfur bacteria use hydrogen sulfide instead of water to reduce CO_2 . There will be liberation of
(A) Oxygen (B) Sulphur
(C) Both (D) None of these
63. Facultative organisms are those which can live
(A) Aerobically (B) Anaerobically
(C) On both (D) On none
64. An interaction in which one population benefits, the second is unaffected
(A) Parasitism (B) Amensalism
(C) Commensalism (D) Predation
65. All Heterotrophs are
(A) Producers (B) Convertors
(C) Consumers (D) Decomposers

66. Irish moss is known as
(A) Chondrus (B) Rhodemia
(C) Porphyra (D) Brown algae
67. Site of protein synthesis is
(A) DNA (B) RNA
(C) Endoplasmic Reticulum (D) Ribosomes
68. The region of the atmosphere above troposphere is known as
(A) Ionosphere (B) Mesosphere
(C) Stratosphere (D) None of these
69. Which of the following bases is not present in RNA.
(A) Adenine (B) Guanine
(C) Thiamine (D) Cytosine
70. Gel is a system of
(A) solid dispersed in liquid medium (B) solid dissolved in liquid medium
(C) liquid dispersed in liquid medium (D) liquid dispersed in solid medium
71. Enzymes are
(A) fatty acids (B) proteins
(C) vitamins (D) none of these
72. Which of the following factors can help in regulating temperature.
(A) light (B) wind
(C) temperature (D) humidity
73. The chemical reaction taking place at the anode is
(A) oxidation (B) dissociation
(C) reduction (D) deposition

74. The oxide which cannot be a reducing agent.
(A) SO_2 (B) NO_2 (C) CO_2 (D) ClO_2
75. What are sea weeds?
(A) Heterotrophs. (B) Autotrophs
(C) Both of these (D) None of these
76. First phase of embryonic development is
(A) cleavage (B) gastrulation
(C) fertilization (D) gametogenesis
77. What is cDNA
(A) circular DNA
(B) cloned DNA
(C) DNA produced from reverse transcription of RNA
(D) cytoplasmic DNA
78. Which of the following best describes the very early atmosphere of the Earth, before the first cells appeared and while there were still reducing conditions?
(A) High amounts of hydrogen and methane gases.
(B) High amounts of oxygen gas.
(C) High amounts of carbon dioxide gas.
(D) High amounts of oxygen and low amounts of carbon dioxide gasses.
79. Neutrons can be found in atoms of all the elements except.
(A) carbon (B) helium
(C) hydrogen (D) neon
80. Among the halogen acid, the one which is weakest is.
(A) HF (B) HCl
(C) HBr (D) HI

81. The molar conductivity of an electrolyte increases as
- (A) dilution increases
 - (B) temperature decreases
 - (C) dilution decreases
 - (D) none of the above is correct
82. Which of the following is a natural fiber?
- (A) starch
 - (B) cellulose
 - (C) rubber
 - (D) nylon-6
83. Antipyretics are medicinal compounds which
- (A) lower body temperature
 - (B) relieve pain
 - (C) control malaria
 - (D) can kill other organisms
84. The filament of electric bulb is
- (A) mercury
 - (B) copper
 - (C) tungsten
 - (D) none of these
85. Which of the following electromagnetic radiation has the smallest wavelength?
- (A) microwaves
 - (B) ultraviolet
 - (C) X-rays
 - (D) gamma rays
86. Which has the longest wavelength from the following?
- (A) Blue light
 - (B) gamma rays
 - (C) X-rays
 - (d) red light
87. Which of the following is best nuclear fuel
- (A) Thorium 236
 - (B) Plutonium 239
 - (C) Uranium 236
 - (D) Neptunium 239

88. What do nitrogen fixing bacteria do?
- (A) They convert nitrates into nitrogen gas.
 - (B) They convert nitrogen gas into a form which can be used by plants.
 - (C) They add nitrogen to carbohydrate to make chlorophyll.
 - (D) A lack of nitrogen fixing bacteria is known as the cause of the lethal yellowing disease of coconut palms.
89. Which of the following is most accurate concerning "uracil"?
- (A) Found in DNA.
 - (B) Found in RNA.
 - (C) Found only in mRNA.
 - (D) Found both in DNA and RNA.
90. Which is not a macromolecule?
- (A) DNA
 - (B) starch
 - (C) sodium palmitate
 - (D) insulin
91. The function of enzymes in the living system is to
- (A) transport oxygen
 - (B) provide immunity
 - (C) catalyse biochemical reactions
 - (D) provide energy
92. Herbicides are chemicals which control
- (A) fungi
 - (B) weeds
 - (C) nematodes
 - (D) insects
93. The branch of biology deals with the microscopic study of the tissues is called
- (A) cell biology
 - (B) histology
 - (C) morphology
 - (D) physiology
94. Open type circulatory system is found in
- (A) insects
 - (B) leeches
 - (C) most of mollusks
 - (D) all the above

95. Release of milk from mammary gland is under
- (A) prolactin (B) vasopressin
(C) oxytocin (D) thymosine
96. Fusion in two gametic nuclei is called
- (A) karyogami (B) syngamy
(C) amphimixis (D) fertilization
97. Segregation of genes takes place
- (A) metaphase (B) anaphase
(C) prophase (D) embryo formation
98. Down's syndrome is a typical case of
- (A) trisomy (B) monosomy
(C) nullisomic (D) tetraploid
99. The free living soil bacteria which fixes nitrogen
- (A) azotobacter (B) nitrosomonas
(C) nitrobacter (D) pseudomonas
100. Dengue fever is caused by
- (A) bacteria (B) virus
(C) plasmodium (D) culex