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) Parazooology (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

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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 respires through
   (A) Contractile vacuole  (B) General surface
       (C) Pseudopodia vacuole  (D) None of the 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 liveworts  (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) Phylloide                (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) Limpoid 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) Palaezoic      (B) Protoerozoic
   (C) Archaeozoic    (D) Proteozoic

49. Down syndrome is due to
   (A) Extra chromosome 21st autosome
   (B) Extra chromosome 17th autosome
   (C) Hormone deficiency
   (D) Extra chromosome 13th 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 CO₂. 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) $\text{SO}_2$          (B) $\text{NO}_2$          (C) $\text{CO}_2$          (D) $\text{ClO}_2$

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 gases.

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