

**ENTRANCE EXAMINATION FOR ADMISSION, MAY 2012.**

**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. 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.
  
2. Cells without a definite nucleus are called
  - (A) Eukaryotic
  - (B) Prokaryotic
  - (C) Unicellular
  - (D) A cellular
  
3. Number of essential amino acids in our body is
  - (A) 10
  - (B) 20
  - (C) 26
  - (D) 12
  
4. Helical model of DNA was provided by
  - (A) Watson and Crick
  - (B) Tatum
  - (C) Khorana
  - (D) Stanley and Iwanowsky
  
5. ATP is
  - (A) An enzyme
  - (B) A hormone
  - (C) An energy rich protein
  - (D) A nucleotide with three phosphoric acid molecules
  
6. DNA differs from RNA
  - (A) In having a double bond
  - (B) In having thiamine
  - (C) In having de-oxynbose
  - (D) All the above
  
7. Genetic information is stored in
  - (A) Structural protein
  - (B) Enzymes
  - (C) DNA
  - (D) DNA and Enzymes
  
8. Chromosomes are principally composed of
  - (A) DNA + Proteins
  - (B) DNA
  - (C) RNA
  - (D) Proteins

9. Liver is able to manufacture  
(A) Vitamin A (B) Vitamin K (C) Vitamin D (D) Vitamin C
10. Plasma membrane is also known as  
(A) Plasmalemma (B) Cytoplasmic membrane  
(C) Cell membrane (D) All the above
11. Oceans contain \_\_\_\_\_ % of water  
(A) 70 (B) 30 (C) 45 (D) 90
12. Absence of \_\_\_\_\_ marks Porifera  
(A) Nervous system (B) Reproductive system  
(C) Respiratory system (D) Digestive system
13. Coral reef forming animals belong to the phylum  
(A) Mollusc (B) Coelentrata (C) Echinodermata (D) Porifera
14. Canal system is a characteristic of  
(A) Hydra (B) Sea anemone (C) Sponge (D) Sea urchin
15. Store house of malarial parasite in man's body is  
(A) Liver (B) Blood (C) Spleen (D) All the above
16. Mutation is  
(A) Small variations in nature (B) Large variations in nature  
(C) Changes in organogenesis (D) Change in histogenesis
17. Larvae of Hydra is known as  
(A) Planula (B) Trochopore (C) Tornaria (D) None
18. Genes are made of  
(A) Histones (B) Polynucleotides  
(C) Hydrocarbons (D) Lipoproteins
19. Green algae is characterized by  
(A) Chlorophyll A (B) Chlorophyll B  
(C) Chlorophyll C (D) Chlorophyll E

20. An example of wood boring molluscs is  
 (A) Teredo (B) Trigonia (C) Tridachna (D) Pholas
21. Simple Cell division is called  
 (A) Mitosis (B) Meiosis  
 (C) Binary fission (D) Mitosis and Meiosis
22. Organisms that lives on dead organic matter  
 (A) Saprophytes (B) Parasites  
 (C) Predators (D) Symbionts
23. The torsion occurs at the angle of  
 (A)  $90^\circ$  (B)  $100^\circ$  (C)  $180^\circ$  (D)  $60^\circ$
24. Asymmetry in gastropods is due to  
 (A) Reduction of coelum (B) Muscular foot  
 (C) Torsion (D) Over growth
25. Water vascular system of echinoderm  
 (A) Ectoderm (B) Endoderm  
 (C) Coelom (D) All the above
26. Skeleton of star fish is made up of  
 (A) Chitinous material (B) Silicious material  
 (C) Calcareous material (D) None of the above
27. Breakdown of fatty acid is  
 (A) Polymerization (B) Addition  
 (C) Hydrolysis (D) Oxidation
28. Study of migration of birds is  
 (A) Ecology (B) Phenology (C) Nidology (D) Phrenology



29. Site of protein synthesis  
 (A) Cytoplasm (B) Ribosome (C) Mitochondria (D) Lysosomes
30. Largest living mammal of the world is  
 (A) African elephant (B) Blue whale (C) Giraffe (D) Sperm whale
31. Study of animal visceral organ is called as  
 (A) Arthology (B) Angiology  
 (C) Sitology (D) Splanchnology
32. Sharks and rays are studied under science called  
 (A) Icythology (B) Traumatology  
 (C) Torpedology (D) Saurology
33. In a sucker fish the sucker is a modification of  
 (A) Dorsal fin (B) Gill slit (C) Mouth (D) Ventral fin
34. The golden age of reptiles are  
 (A) Mesozoic (B) Cretaceous (C) Miocene (D) Palaeozoic
35. The main function of an epithelium is  
 (A) Production (B) Protection (C) Absorption (D) Secretion
36. Fats in the body are stored under the skin as  
 (A) Lipoprotein (B) Mucous layer  
 (C) Adipose tissue (D) Lymphoid tissue
37. Father of genetics  
 (A) Mendel (B) Morgan (C) Darwin (D) Muller
38. In marine teleost fishes sodium and chloride ions are excreted by  
 (A) Gills (B) Neuromast organs  
 (C) Amionotelic (D) Scroll valve

39. The fertilization of ovum in mammals takes place in  
 (A) Vagina (B) Uterus  
 (C) Vestibule (D) Fallopian tube
40. Parathyroid hormone is  
 (A) Steroid (B) Lipid (C) Carbohydrate (D) Protein
41. Morphogenesis starts with  
 (A) Neuralation (B) Gastrulation  
 (C) Blastulation (D) Morulation
42. The oldest era is  
 (A) Palaeozoic (B) Protoerozoic (C) Archaeozoic (D) Proteozoic
43. Gene can be defined as  
 (A) Unit of function (B) Unit of recombination  
 (C) Unit of physiological activity (D) Unit of segregation
44. A vector is  
 (A) Human parasite (B) Pathogenic protozoan  
 (C) Disease transmitting host (D) Natural reservoir of disease
45. Down syndrome is due to  
 (A) Extra chromosome 21<sup>st</sup> autosome (B) Extra chromosome 17<sup>th</sup> autosome  
 (C) Hormone deficiency (D) Extra chromosome 13<sup>th</sup> autosome
46. The vestigial organ in man is  
 (A) Coccyx (B) Spleen (C) Pinna (D) Lips
47. Charles Darwin used the ship  
 (A) HMS Elizabeth (B) HMS Victoria  
 (C) HMS Beagle (D) HMS Nadharkani
48. Marsupials are characteristics of  
 (A) North America (B) Asia (C) Australia (D) Africa

49. Pathogens produce disease through  
 (A) Toxin production (B) Antigen production  
 (C) Tissue damage (D) Both (A) & (C)
50. Restriction enzymes are  
 (A) Synthesize ATP (B) Synthesize RNA  
 (C) Synthesize DNA (D) Cut DNA at certain places
51. Islet of langerhans are seen in  
 (A) Kidney (B) Pancreas (C) Ovary (D) Ileum
52. Biosphere refers to  
 (A) Area occupied by living organisms (B) Plants of the world  
 (C) Spherical plants (D) Plants of particular area
53. Denitrifying bacteria convert  
 (A) Nitrate to free nitrogen (B) Nitrogen to ammonia  
 (C) Nitrate to nitrite (D) Ammonification
54. Minamata disease is related to  
 (A) Methyl mercury (B) Pathogens  
 (C) Oil spill (D) Nutrient deficiency
55. Trophic level is formed by  
 (A) only animals (B) only plants  
 (C) carnivorous (D) organism linked to food chain
56. Common name of vertebrate trachea is  
 (A) Wind type (B) Respiratory type  
 (C) Oesophagus (D) Gullet
57. A spiral bacterium is called  
 (A) Coccus (B) Bacillus  
 (C) Diplococcus (D) None of these

58. Endoplasmic reticulum is concerned with
- |                           |                            |
|---------------------------|----------------------------|
| (A) Fatty Acid synthesis  | (B) Peptide bond formation |
| (C) Cholesterol formation | (D) Proteolysis            |
59. The two strands of DNA is held by
- |                    |                   |
|--------------------|-------------------|
| (A) Phosphate bond | (B) Sulphide bond |
| (C) Oxygen bond    | (D) Hydrogen bond |
60. 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. |
61. The messenger RNA in cell
- |                                                      |
|------------------------------------------------------|
| (A) carries DNA to the site of protein synthesis     |
| (B) only makes the information of DNA more effective |
| (C) stimulates protein synthesis                     |
| (D) inhibits protein synthesis                       |
62. X chromosome is considered to be
- |                                |
|--------------------------------|
| (A) Sex determining chromosome |
| (B) Epicentre chromosome       |
| (C) Plain chromosome           |
| (D) Cytoplasmic chromosome     |
63. Purine bases are
- |         |         |         |         |
|---------|---------|---------|---------|
| (A) G&C | (B) A&T | (C) A&C | (D) T&C |
|---------|---------|---------|---------|
64. Bioluminescence is exhibited by
- |              |                |                |                |
|--------------|----------------|----------------|----------------|
| (A) Ceratium | (B) Toxoplasma | (C) Paramecium | (D) Plasmodium |
|--------------|----------------|----------------|----------------|
65. Which of the following class exhibits polymorphism?
- |              |                |              |                |
|--------------|----------------|--------------|----------------|
| (A) Hydrozoa | (B) Scyphozoan | (C) Calcarea | (D) Polychaeta |
|--------------|----------------|--------------|----------------|



66. Fishes belonging to class dipnoi are commonly called as  
 (A) Lung fishes (B) Mud puppies  
 (C) Flying fishes (D) Globe fishes
67. Webberiam ossicles are present in  
 (A) Anabas (B) Catla (C) Wallago (D) Mystus
68. The water vascular system performs all but one functions  
 (A) Excretion (B) Respiration  
 (C) Food capturing (D) Sense organ
69. 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
70. Common type of caudal fin in fishes is  
 (A) Protocercal (B) Heterocercal (C) Diphyrcal (D) Homocercal
71. Which method is not found in Amoeba?  
 (A) Binary fission (B) Multiple fission  
 (C) Sporulation (D) Conjugation
72. The number of gills in a bony fish is  
 (A) 1 pair (B) 3 pair (C) 5 pair (D) 4 pair
73. Longest part in a small intestine  
 (A) Duodenum (B) Ileum (C) Jejunum (D) Colon
74. Gall bladder in mammals is situated on  
 (A) Right central lobe of liver (B) Left central lobe of liver  
 (C) Caudate lobe (D) Straight lobe
75. Heart is made up of  
 (A) Cardiac muscle (B) Longitudinal muscles  
 (C) Smooth muscle (D) Striated muscles

76. Common name of vertebrate trachea is  
 (A) Wind pipe (B) Respiratory pipe  
 (C) Oesophagus (D) Gullet
77. Pepsin enzyme converts protein into  
 (A) Polypeptides (B) Glucopeptides  
 (C) Glycoprotein (D) Emulsified protein
78. A molecule of haemoglobin is  
 (A) Dull red in colour (B) Orange red in colour  
 (C) Bright red in colour (D) Brown in colour
79. Red algae is  
 (A) Cyanophyceae (B) Myxophyceae  
 (C) Chlorophyceae (D) Rhodophyceae
80. Most flagellates in algae cells is  
 (A) Unicellular  
 (B) Colonial  
 (C) Most unicellular and some colonial  
 (D) Some unicellular and most colonial
81. Viruses can be studied under  
 (A) Light microscopes  
 (B) High powers of the light microscope  
 (C) Electron microscope  
 (D) All of these
82. Solar energy is the source of energy for  
 (A) Green plants (B) Photosynthetic autotrops  
 (C) Heterotropic organisms (D) All of these
83. Visible light has the wavelength range of  
 (A) 200-400 nm (B) 400-700 nm  
 (C) 700-900 nm (D) < 200 nm

84. The green and purple sulfur bacteria use hydrogen sulfide instead of water to reduce  $\text{CO}_2$ . There will be liberation of
- (A) Oxygen (B) Sulphur  
(C) Both (D) None of these
85. The cells stores its energy reserves in the form of
- (A) ATP (B) NADPH (C) Food (D) NADH
86. In the process of nitrogen fixation Nitrogen is converted to
- (A) Nitrate (B) Nitrite  
(C) Ammonia (D) Carbylamine
87. Facultative organisms are those which can live
- (A) Aerobically (B) Anaerobically  
(C) On both (D) On none
88. Nitrogen is a component element of
- (A) Proteins (B) Nucleic acid  
(C) Both (D) None
89. Most of the enzyme are inactivated at temperatures above
- (A)  $25^\circ\text{C}$  (B)  $45^\circ\text{C}$  (C)  $50^\circ\text{C}$  (D)  $65^\circ\text{C}$
90. An interaction in which one population benefits, the second is unaffected
- (A) Parasitism (B) Amensalism  
(C) Commensalism (D) Predation
91. An enzyme which is not proteinaceous
- (A) Isozyme (B) Ribozyme (C) Holozyme (D) Trypsin
92. Clinging roots are present in
- (A) Mangrove vegetation (B) Xerophytes  
(C) Halophytes (D) Epiphytes

93. All Heterotrophs are  
 (A) Producers (B) Convertors  
 (C) Consumers (D) Decomposers
94. The sea floor from the shore to the edge of the continental shelf forms the  
 (A) Littoral zone (B) Benthic environment  
 (C) Pelagic environment (D) Photic zone
95. Source of agar-agar is  
 (A) Phaeophyceae (Brown algae) (B) Porphyra  
 (C) Sea weeds (D) *Gelidium, Gracilaria*
96. Irish moss is known as  
 (A) Chondrus (B) Rhodemia  
 (C) Porphyra (D) Brown algae
97. Alginic acid used as source of energy, food, and chemicals is obtained from  
 (A) Brown algae (B) Red algae  
 (C) Purple algae (D) Green algae
98. The carrier of genetic information is  
 (A) Ribosomal RNA (B) Transfer RNA  
 (C) Ribosomes (D) DNA
99. Site of protein synthesis is  
 (A) DNA (B) RNA  
 (C) Endoplasmic Reticulum (D) Ribosomes
100. Process by which new species are formed is called  
 (A) Speciation (B) Natural selection  
 (C) Orthogenesis (D) Palaeontology