

ENTRANCE EXAMINATION FOR ADMISSION, MAY 2011.

M.Sc. (COASTAL DISASTER MANAGEMENT)

COURSE CODE : 379

Register Number :

Signature of the Invigilator
(with date)

COURSE CODE : 379

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 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. Adam's bridge connects
 - (A) Amman and Damascus
 - (B) Dhanushkodi (Ramesvararn) and Talaimannar
 - (C) Israel and Jerusalem
 - (D) Persian Gulf and Gulf of Oman

2. The Ocean between America and Europe is called
 - (A) Pacific
 - (B) Arctic
 - (C) Atlantic
 - (D) Southern

3. Myanmar is a new name of
 - (A) Burma
 - (B) Philippines
 - (C) Thailand
 - (D) Vietnam

4. Long treeless grassy palms are characteristics of
 - (A) Campos
 - (B) Llanos
 - (C) Pampas
 - (D) Prairies

5. Which of the following is not a desert?
 - (A) Gobi
 - (B) Kalahari
 - (C) Sahara
 - (D) Cotopaxi

6. Which is the world's largest desert?
 - (A) Sahara
 - (B) Gobi
 - (C) Thar
 - (D) Takala Makan

7. Which of the following is the largest river in the world?
 - (A) Nile
 - (B) Congo
 - (C) Ganges
 - (D) Amazon

8. Niagara Falls is in
 - (A) Australia
 - (B) U.K.
 - (C) South Africa
 - (D) USA

9. The Great Barrier Reef is
 - (A) Conglomeration of corals in Australian waters
 - (B) Mountain range in Utah, U.S.A.
 - (C) Salt hills of Afghanistan
 - (D) Sub -Oceanic mountain in South China Sea

10. Which of the following soils is very hard to cultivate?
 - (A) Alluvial
 - (B) Black
 - (C) Red
 - (D) Sandy

11. Fertility of soil can be improved by
(A) Adding living earthworms
(B) Adding dead earthworms
(C) Removing dead earthworms
(D) Removing living earthworms and adding dead earthworms
12. World's largest producer of jute is
(A) Bangladesh (B) Burma (C) India (D) Pakistan
13. Which of Following is NOT a River rising in Himalayas?
(A) Ganga (B) Satluj (C) Damodar (D) Indus
14. Which of Following Countries is not a member of SAARC?
(A) Pakistan (B) Bangladesh (C) Bhutan (D) China
15. What percentage of the world's water is fresh water?
(A) less than 3% (B) about 5%
(C) 7.5% (D) just over 10%
16. Where is most of the world's freshwater located?
(A) aquifers (B) glaciers and ice sheets
(C) lakes and rivers (D) artificial reservoirs
17. Northern Most island of Andaman and Nicobar is
(A) Narcondam Island (B) Landfall Island
(C) Coco Island (D) Interview Island
18. Bauxite is an important of
(A) Aluminum (B) Zinc (C) Copper (D) Mica
19. Day and night are the results of
(A) Earth's rotation around its axis
(B) Earth's revolution
(C) Earth's rotation accompanied with its revolution
(D) None of these

11. Fertility of soil can be improved by
(A) Adding living earthworms
(B) Adding dead earthworms
(C) Removing dead earthworms
(D) Removing living earthworms and adding dead earthworms
12. World's largest producer of jute is
(A) Bangladesh (B) Burma (C) India (D) Pakistan
13. Which of Following is NOT a River rising in Himalayas?
(A) Ganga (B) Satluj (C) Damodar (D) Indus
14. Which of Following Countries is not a member of SAARC?
(A) Pakistan (B) Bangladesh (C) Bhutan (D) China
15. What percentage of the world's water is fresh water?
(A) less than 3% (B) about 5%
(C) 7.5% (D) just over 10%
16. Where is most of the world's freshwater located?
(A) aquifers (B) glaciers and ice sheets
(C) lakes and rivers (D) artificial reservoirs
17. Northern Most island of Andaman and Nicobar is
(A) Narcondam Island (B) Landfall Island
(C) Coco Island (D) Interview Island
18. Bauxite is an important of
(A) Aluminum (B) Zinc (C) Copper (D) Mica
19. Day and night are the results of
(A) Earth's rotation around its axis
(B) Earth's revolution
(C) Earth's rotation accompanied with its revolution
(D) None of these

20. Earthquakes are caused by
(A) Tectonism (B) Denudation
(C) Earth Revolution (D) Earth's Rotation
21. The equatorial radius of the earth is approximately
(A) 12,700 km (B) 6,900 km
(C) 6,400 km (D) 11,600 km
22. The most abundant element in the earth's atmosphere is
(A) Argon (B) Nitrogen
(C) Oxygen (D) Krypton
23. Indian Standard Time is associated with
(A) $82^{1/20}$ east Longitude
(B) 180° west longitude
(C) 95° east longitude
(D) 90° west longitude
24. Which is the world's largest mountain range?
(A) Alps (B) Himalaya-Karakorum
(C) Andes (D) Tibets
25. Which of the following types of coal contains over 90 percent carbon and is smokeless?
(A) Anthracite (B) Bituminous coal
(C) Lignite (D) Peat
26. Which of the following four elements has the largest atomic radius? Is it
(A) strontium (B) francium
(C) calcium (D) bromine
27. Which of the following are saturated aliphatic hydrocarbons?
(A) alkanes (B) alkenes
(C) alkynes (D) nixanes

28. Sucrose, ordinary table sugar, may be classified as a
- (A) Monosaccharide (B) Disaccharide
(C) Polysaccharide (D) Oligosaccharide
29. Pure water is approximately what molar concentration
- (A) .55 Molar (B) 5.5 Molar
(C) y) 55 Molar (D) 550 Molar
30. The rate at which dissolution occurs is LEAST dependent upon which one of the following factors
- (A) temperature (B) pressure
(C) solution concentration (D) solute surface area
31. Who was the first American chemist to receive a Nobel Prize? He was selected in 1914 for his precise determination of atomic weights.
- (A) Edward Frankland (B) Theodore Richards
(C) John Bardeen (D) Paul Dirac
32. How many atoms of oxygen are in a glucose molecule?
- (A) 2 (B) 6
(C) 10 (D) 12
33. An alcohol is related to an ester as a hydroxide compound is related to
- (A) an acid (B) a ketone
(C) an ether (D) a salt
34. In the filling of electron orbitals for the element sulfur, which has 16 electrons, the number of electrons in the 3p orbitals is
- (A) 3 (B) 4
(C) 6 (D) 0
35. Which of the following is the weakest acid?
- (A) hydrochloric acid (B) hydrofluoric acid
(C) sulfuric acid (D) nitric acid

36. Of the following liquids, which is most dense?
(A) water (B) gasoline
(C) acetone (D) chloroform
37. Solids may be considered to be either crystalline noncrystalline. The basic difference between them is that a crystal, in contrast to a noncrystal
(A) has a sharp melting point
(B) has an irregular array of atoms
(C) exhibits double refraction
(D) has a completely regular atomic or molecular structure
38. Hydrocarbons that contain a triple bond between carbon atoms are known as
(A) alkenes (B) alkanes
(C) alkynes (D) polymers
39. The atoms in sugar are bound by what type of bond?
(A) ionic (B) hydrogen
(C) covalent (D) van der Waal
40. Which is an example of a polymer?
(A) salt (B) oil
(C) plastic (D) glucose
41. Vegetable oil is made into margarine through
(A) halogenation (B) partial hydrogenation
(C) methylation (D) oxidation
42. Which one of the following is the correct statement?
(A) Boric acid is a protonic acid
(B) Beryllium exhibits coordination number of six
(C) Chlorides of both beryllium and aluminium have bridged chloride structures in solid phase
(D) $B_2H_6 \cdot 2NH_3$ is known as 'inorganic benzene'
43. Which one of the following pairs of species have the same bond order?
(A) CN^- and NO^+ (B) CN^- and CN^+
(C) O^- and CN^- (D) NO^+ and CN^+

44. How thick is the crust of the Earth?
- (A) About 4 miles (B) About 4 km
(C) About 40 km (D) About 400 km
45. The layer that separates crust from core is the
- (A) Magma layer (B) Lithosphere
(C) Mantle (D) Continent
46. Minerals
- (A) Can form by life-processes – organic
(B) Are crystalline solids
(C) Have a unique chemical composition
(D) Can be any state (solid, liquid, or gas) as long as that state occurs naturally
47. New seafloor is created at a
- (A) deep-sea trench (B) mid-ocean ridge
(C) subduction zone (D) transform fault
48. The contribution made to geology by James Hutton was
- (A) the recognition that processes still active today could produce almost any known rock type
(B) the description of plausible processes for converting one rock type to another
(C) a change in outlook on Earth processes from a catastrophic to a uniformitarian one
(D) all of the above
49. What caused dust and condensing material to accrete into planetesimals?
- (A) Heating of gases
(B) Gravitational attraction and collisions
(C) Nuclear fusion
(D) Rotation of the proto-sun

50. The moon is
- (A) Older than the sun
 - (B) Older than most meteorites
 - (C) Older than the Earth
 - (D) None of these
51. What powers the Earth's internal heat engine?
- (A) Radioactivity
 - (B) Solar energy
 - (C) Volcanoes
 - (D) Ocean tides
52. The Earth's external heat engine is not responsible for which of the following:
- (A) climate
 - (B) erosion
 - (C) tides
 - (D) winds
53. When did geologists develop the theory of plate tectonics
- (A) in the mid 1800s
 - (B) in the early 1900s
 - (C) in the 1950s
 - (D) in the 1960s
54. The lithosphere is approximately _____ kilometers thick.
- (A) 1-2
 - (B) 5-10
 - (C) 50-100
 - (D) 100-200
55. The asthenosphere is
- (A) cool and strong
 - (B) cool and weak
 - (C) hot and strong
 - (D) hot and weak
56. Which of the following is not a type of plate boundary?
- (A) convergent
 - (B) divergent
 - (C) transform fault
 - (D) all of these are plate boundaries
57. Approximately how deep (below sea level) are deep-sea trenches
- (A) 1 km
 - (B) 10 km
 - (C) 100 km
 - (D) 1000 km

58. Which of the following is a nonrenewable energy resource?
- (A) solar (B) methane
(C) hydroelectric (D) coal
59. Two-thirds of the world's known oil reserves are located in
- (A) Siberia (B) Gulf of Mexico and Caribbean
(C) The Middle East (D) Indonesia
60. Which of the following statements about graphite and diamond is false?
- (A) graphite and diamond have the same density
(B) graphite and diamond have different mineral structures
(C) graphite and diamond are both made of carbon atoms
(D) graphite is stable in the crust whereas diamond is stable in the mantle
61. Clay minerals are common examples of _____ silicate structures.
- (A) framework (B) single chains
(C) sheet silicates (D) isolated tetrahedral
62. The property "cleavage" refers to
- (A) Development of crystal faces during mineral growth
(B) Splitting of a mineral along planar surfaces
(C) Development of irregular fractures when a mineral is broken
(D) The density or specific gravity of a mineral
63. Marble is a metamorphic rock that forms from a _____ parent.
- (A) Granite (B) Limestone (C) Sandstone (D) Shale

64. Mechanical weathering produces
- (A) clay minerals (B) quartz
(C) smaller particles (D) calcium carbonate
65. What is the term for the general process by which rocks are broken down at the Earth's surface?
- (A) deposition (B) erosion
(C) lithification (D) weathering
66. Which of the following represents the longest time period?
- (A) Precambrian (B) Paleozoic
(C) Mesozoic (D) Cenozoic
67. Which of the following sequences correctly lists the different arrivals from first to last?
- (A) P waves ... S waves Surface waves
(B) Surface waves ... P waves S waves
(C) P waves ... Surface waves ... S waves
(D) S waves ... P waves Surface waves
68. Earthquakes can occur with _____ faulting
- (A) normal (B) reverse
(C) thrust (D) all of these
69. Electric current may be expressed in which one of the following units?
- (A) coulombs/volt (B) joules/coulomb
(C) coulombs/second (D) ohms/second
70. Which of the following scientists is responsible for the exclusion principle which states that two objects may NOT occupy the same space at the same time? Was it
- (A) Heisenberg (B) Bohr
(C) Teller (D) Pauli

71. Three capacitors with different capacitances are connected in series. Which of the following statements is TRUE?
- (A) All three of the capacitors have the same potential difference between their plates
 - (B) The magnitude of the charge is the same on all of the capacitor plates
 - (C) The capacitance of the system depends on the voltage applied across the three capacitors
 - (D) None
72. A copper rod which is 1 centimeter in diameter carries a current of 5 amps. The current is distributed uniformly throughout the rod. The magnetic field half way between the axis of the rod and its outside edge is
- (A) zero
 - (B) pointing radially outward
 - (C) pointing radially inward
 - (D) circles the axis of the rod
73. Iron is what type of magnetic material? Is it
- (A) diamagnetic
 - (B) paramagnetic
 - (C) ferromagnetic
 - (D) non-magnetic
74. Whose principle or law states that each point on a wavefront may be considered a new wave source? Is it
- (A) Snell's Law
 - (B) Huygen's Principle
 - (C) Young's Law
 - (D) Hertz's Law
75. The wave nature of light is demonstrated by which of the following?
- (A) the photoelectric effect
 - (B) color
 - (C) the speed of light
 - (D) diffraction
76. The collision between a photon and a free electron was first explained by which of the following scientists?
- (A) Einstein
 - (B) Heisenberg
 - (C) Compton
 - (D) Bohr
77. The SI unit of pressure is the
- (A) Torr
 - (B) Dyne per centimeter squared
 - (C) Atmosphere
 - (D) Pascal

78. An electroscope charged WITHOUT contacting a charged body is charged by
(A) induction (B) conduction
(C) convection (D) insulation
79. The potential drop between the terminals of a battery is equal to the battery's EMF when
(A) no current is drawn from the battery
(B) a very large current is drawn from the battery
(C) the internal resistance of the battery is very large
(D) the resistance in the external circuit is small
80. To convert a galvanometer to a voltmeter, you should add a
(A) high resistance in series (B) high resistance in parallel
(C) low resistance in series (D) low resistance in parallel
81. In the sun, helium is produced from hydrogen by
(A) radioactive decay (B) disintegration
(C) fission (D) fusion
82. The idea that electrons revolved in orbits around the nucleus of an atom without radiating energy away from the atom was postulated by
(A) Thompson (B) Bohr
(C) Rutherford (D) Einstein
83. Who invented Electric Bulb?
(A) Marconi (B) Thomas Alwa Edison
(C) Thomas William (D) Alexander Gramhambell
84. In CGS system units of time
(A) nm (B) hours
(C) seconds (D) minutes
85. The force is the product of
(A) velocity and acceleration (B) the speed and acceleration
(C) mass and speed (D) mass and acceleration

78. An electroscope charged WITHOUT contacting a charged body is charged by
(A) induction (B) conduction
(C) convection (D) insulation
79. The potential drop between the terminals of a battery is equal to the battery's EMF when
(A) no current is drawn from the battery
(B) a very large current is drawn from the battery
(C) the internal resistance of the battery is very large
(D) the resistance in the external circuit is small
80. To convert a galvanometer to a voltmeter, you should add a
(A) high resistance in series (B) high resistance in parallel
(C) low resistance in series (D) low resistance in parallel
81. In the sun, helium is produced from hydrogen by
(A) radioactive decay (B) disintegration
(C) fission (D) fusion
82. The idea that electrons revolved in orbits around the nucleus of an atom without radiating energy away from the atom was postulated by
(A) Thompson (B) Bohr
(C) Rutherford (D) Einstein
83. Who invented Electric Bulb?
(A) Marconi (B) Thomas Alwa Edison
(C) Thomas William (D) Alexander Gramhambell
84. In CGS system units of time
(A) nm (B) hours
(C) seconds (D) minutes
85. The force is the product of
(A) velocity and acceleration (B) the speed and acceleration
(C) mass and speed (D) mass and acceleration

86. Who formulated the Heat Emission theory (Thermonic Theory)?
(A) C.V. Raman (B) J.C. Bose
(C) Meghanath Saha (D) Dr. MS.Swaminathan
87. The volume of water vapour present in air is low in
(A) Coastal areas (B) Himalayan regions
(C) Deltas (D) Plateau regions
88. The instrument used to measure thickness of thin glass plates is
(A) Vernier calipers (B) Screw gauge
(C) Scale (D) Tape
89. Geocentric Theory was proposed by
(A) Copernicus (B) Ptolemy
(C) Tycho Brahe (D) Newton
90. The electromagnetic radiations produced by oscillating electromagnetic oscillators of high frequency are
(A) IR radiations (B) Micro waves
(C) Radio waves (D) Y rays
91. Which alkaline earth metal is more abundant in nature?
(A) Magnesium and calcium (B) Radium and Mercury
(C) Dolomite and Barytes (D) Gypsum and Dolomite
92. Mathematical operations in a computer are done in
(A) Monitor (B) CPU
(C) Keyboard (D) None
93. When temperature of a semiconductor is raised, its energy gap
(A) increases (B) decreases
(C) remains same (D) may increase or decrease

94. Alkaline earth metals are chemically very reactive due to their _____ character.
- (A) electropositive (B) non responsive
(C) electro negative (D) none
95. The Michelson interferometer was designed to study the nature of
- (A) water waves (B) sound waves
(C) an "ether" (D) sunlight
96. The value of G, the universal gravitational constant, was measured experimentally by
- (A) Newton (B) Cavendish
(C) Copernicus (D) Kepler
97. Which of the following colors of visible light has the longest wavelength? Is it
- (A) violet (B) green
(C) yellow (D) red
98. Work is equal to which of the following?
- (A) the cross product of force and displacement
(B) the product of force times time
(C) force divided by time
(D) the dot product of force and displacement
99. The work done by a friction force is:
- (A) always positive
(B) always negative
(C) always zero
(D) either positive or negative depending upon the situation.
100. The instrument used to measure the diameter of a thin wire or a small sphere is
- (A) Screw gauge (B) Screw in a nut
(C) Pitch of the screw (D) Pitch Scale
-