ENTRANCE EXAMINATION FOR ADMISSION, MAY 2010.
M.Sc. (COASTAL DISASTER MANAGEMENT)
COURSE CODE : 379

Register Number: ____________________

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. The diagonal of a square is $4\sqrt{2}$ cm. The diagonal of another square whose area is double that of the first square is
   (A) 8 cm  (B) $8\sqrt{2}$ cm  (C) 4$\sqrt{2}$ cm  (D) 16 cm

2. A train starts with the speed of 70 km/hr with its speed increasing every two hours by 10 km/hr. In how many hours will it cover 345 km?
   (A) 2$\frac{3}{4}$ hrs  (B) 4 hrs 5 mins  (C) 4$\frac{1}{2}$ hrs  (D) None of the above

3. How long does a train 110 metres long running at the speed of 72 km/hr take to cross a bridge 132 metres in length?
   (A) 9.8 sec  (B) 12.1 sec  (C) 12.42 sec  (D) 14.3 sec

4. A boatman goes 2 km against the current of the stream in 1 hour and goes 1 km along the current in 10 minutes. How long will it take to go 5 km in stationary water?
   (A) 40 minutes  (B) 1 hr  (C) 1 hr 15 minutes  (D) 1 hr 30 minutes

5. The value of
   \[
   \left(\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}\right) + \frac{1}{2} \div \left(\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}\right)
   \]
   is
   (A) 2  (B) $\frac{3}{2}$  (C) $\frac{4}{13}$  (D) $\frac{36}{13}$

6. The ratio of the incomes of A and B is 5 : 4 and the ratio of their expenditure is 3 : 2. If at the end of each year, each saves Rs. 1600, then the income of A is
   (A) Rs. 3400  (B) Rs. 3600  (C) Rs. 4000  (D) Rs. 4400

7. Half of 1 per cent is equal to
   (A) 0.005  (B) 0.05  (C) 0.02  (D) 0.2

8. If $\frac{3}{5}$th of a cistern is filled in 1 minute, how much more time will be required to fill the rest of it?
   (A) 40 sec  (B) 30 sec  (C) 36 sec  (D) 24 sec
9. In what ratio must water be mixed with milk costing Rs. 12 per liter to obtain a mixture worth Rs. 8 per liter?
   (A) 1 : 2   (B) 2 : 1   (C) 2 : 3   (D) 3 : 2

10. A number was divided successively in order by 4, 5 and 6. The remainders were respectively 2, 3 and 4. The number is
    (A) 214   (B) 476   (C) 954   (D) 1908

11. Highest mountain peak in south India is
    (A) Dotabetta   (B) Anaimudi
    (C) Permedu   (D) Thengumerhada

12. How many states are constituted from Federal India?
    (A) 30   (B) 26   (C) 27   (D) 28

13. Which narrow water body separates Sri Lanka from India?
    (A) Gulf of Mannar   (B) Palk Strait
    (C) Bay of Bengal   (D) Palk Bay

14. Which Mountain Separates Myanmar from India?
    (A) Himalayas   (B) Arakan Yoma
    (C) Kosi Hills   (D) Jaintiya Hills

15. Windward side of the mountain is the
    (A) Rain shadow region   (B) Rainfall region
    (C) Poor rainfall region   (D) Mountain which does not faces the moisture bearing winds

16. Silent Valley is found in
    (A) Karnataka   (B) Tamil Nadu
    (C) Kerala   (D) Andhra Pradesh

17. Which country has the longest Border with India?
    (A) Pakistan   (B) Bangladesh
    (C) Nepal   (D) Bhutan
18. How many countries forms as apart of SAARC?
(A) 7  (B)  6  (C)  8  (D)  5

19. Which is the southern most Tip of India?
(A) Kanayakumari  (B) Indira Point
(C) Cape of Good Hope  (D) Dhanush Kodi

20. Which Island of India is nearest to Thailand?
(A) Car Nicobar  (B) Kamorta
(C) Tillanachang  (D) Nancowrie

21. Peninsula is one which is surrounded by;
(A) water on two sides  (B) water on three sides
(C) water on four sides  (D) water on one side

22. Seismograph is an instrument which measures
(A) pressure  (B) humidity
(C) earth quakes  (D) cyclone

23. Earthquake is caused because of
(A) gravity  (B) rotation of earth
(C) faulting  (D) ocean currents

24. Sumatra-Andaman earth quake occurred 26th December 2004, was formed because of collision of
(A) Pacific and Australian plates  (B) Indian and Burmese plates
(C) Australian and African plates  (D) American plates and Asian plates

25. Age of the earth is
(A) 3.5 billion years  (B) 4.5 billion years
(C) 2.5 billion years  (D) 6 billion years

26. Deepest portion of sea is found in
(A) Pacific ocean  (B) Atlantic ocean
(C) Indian  (D) Arctic sea
27. In Which mountain, the highest peak is located?
   (A) Rockies (B) Andes
   (C) Himalayas (D) Appalachian

28. Which is the biggest ocean?
   (A) Pacific (B) Atlantic
   (C) Indian (D) Bay of Bengal

29. Density is equal to
   (A) mass/volume (B) mass/velocity
   (C) mass/gravity (D) mass/area

30. Velocity is equal to
   (A) distance/time (B) distance/area
   (C) volume/area (D) speed x time

31. Nautical mile is equal to
   (A) 1.85 km (B) 2.5 km
   (C) 5 km (D) 4 km

32. Biggest continent
   (A) Asia (B) Africa
   (C) North America (D) Europe

33. Which of the following planets show the same “Size-bearing”?
   (A) Earth – Mars (B) Earth – Venus
   (C) Mars – Venus (D) Venus – Mercury

34. Olympus Mons, the largest known volcano in the solar system is found on the surface of
   (A) Earth (B) Moon (C) Mars (D) Jupiter

35. Which of the following planets has the least density?
   (A) Earth (B) Mars (C) Venus (D) Saturn

36. The earth’s crust is thickest under
   (A) Shield areas (B) Platforms
   (C) Phanerozoic orogenic belts (D) Archaen greenstone belts
37. The Neotectonic movements of the Indian plate suggests that in about 50 M.Y. the Indian sub-continent will drift further towards:
   (A) North  (B) South  (C) East  (D) West

38. Which of the following cities is Not Subsiding?
   (A) Mumbai  (B) Chennai  (C) Kolkata  (D) Srinagar

39. In Indian sub continent, the main earthquake belt runs along the Himalayan ranges and south-west to the Rann of Kutch. Which of the following earthquakes did NOT occur in this belt?
   (A) Utter Kashi (1975)  (B) Lattur (1993)

40. According to the recent views, Narmada-son lineament has originated due to:
   (A) Normal fault tectonics  (B) Wrench fault tectonics
   (C) Taphrogenic movements  (D) Oscillatory tectonic movements

41. India was separated from the Antartica about 140 M.Y. ago. When did it joining South Asia?
   (A) 120 MY ago  (B) 80 MY ago  (C) 60 MY ago  (D) 45 MY ago

42. The sunda Trench do NOT runs parallel to the island of
   (A) Java  (B) Sumatra  (C) Maldives  (D) Nicobar

43. Choose the correct answer
   (A) Andaman & Nicobar IsIs --- Diastrophic IsIs
   (B) Madagascar --- Barrier Reef
   (C) Maldives --- Continental IsIs
   (D) Mauritius --- Volcanic IsIs

44. Which one of the following places is more likely to be affected by chemical weathering?
   (A) Thar Desert  (B) Tibetan plateau
   (C) Leh  (D) Siwalik
45. Circular reefs enclosing a shallow body of water are called
   (A) Lagoons  (B) Atolls
   (C) Fringing reefs  (D) Barrier reefs

46. Glaciers approximately occupy __________ % of the world's area
   (A) 10  (B) 15  (C) 18  (D) 20

47. Soils in which sand, clay and humus are found more or less in equal properties are called
   (A) Loamy soils  (B) Regur  (C) Chernozem  (D) Pedalfer

48. Which of the following is NOT a feature associated with fluvial geomorphic cycle?
   (A) Cascade  (B) Bluff  (C) Slough  (D) Matterhorn

49. Seas which are nearly surrounded by land masses are called
   (A) Relict seas  (B) Epeiric seas
   (C) Marginal seas  (D) Shelf seas

50. Which of the following dunes appear U-shaped in plan view?
   (A) Barchans  (B) Parabolic dunes
   (C) Seifs  (D) Dome dunes

51. The sudden collapse of vapour bubbles in the water of a stream is due to the process of
   (A) Solution  (B) Cavitation
   (C) Corrosion  (D) Corrassion

52. A Plain formed by the growth and joining of floodplains is called
   (A) Pedeplain  (B) Peneplain
   (C) Panplain  (D) Etch plain

53. All the elements and their isotopes are believed to have synthesized from the nuclei of
   (A) Hydrogen  (B) Helium
   (C) Oxygen  (D) Nitrogen
54. The most abundant minerals in the earth’s crust belongs to
   (A) Quartz         (B) Pyroxenes
   (C) Plagioclase feldspars   (D) Potash feldspars

55. Which of the following layers of the earth can be described as ‘oxysphere’?
   (A) Biosphere     (B) Atmosphere
   (C) Asthenosphere   (D) Lithosphere

56. The most important source of radiogenic heat production in the earth just after its accretion was
   (A) U^{238}    (B) U^{236}   (C) Th^{232}   (D) U^{235}

57. Which of the following has the least ionic radius?
   (A) Na^+    (B) Mg^{2+}   (C) Al^{3+}   (D) Si^{4+}

58. \( \beta \)-decay of \( ^{40}K \) leads to the formation of
   (A) \( ^{40}Ar \)   (B) \( ^{40}Ca \)   (C) \( ^{39}K \)   (D) \( ^{39}Ar \)

59. Rainwater is distinguished from groundwater by
   (A) Tritum method   (B) Berylium method
   (C) Rb-Sr method   (D) Radio carbon method

60. By Volume, oxygen occupies about ———— of the continental crust
   (A) 94%   (B) 63%   (C) 47%   (D) 27%

61. Two ions can replace each other in a crystal structure only if the difference between their ionic radii does not exceed
   (A) 5%    (B) 10%   (C) 15%   (D) 20%

62. Chemical composition of Sea water is
   (A) CaCl_2   (B) NaCl   (C) MgCl_2   (D) KCl

63. Structural Geology deals with matters in the
   (A) Solid state   (B) Liquid state
   (C) Gaseous state   (D) All of the above
64. The behavior of perfectly elastic bodies is governed by
   (A) Hooke's law  (B) Hilt's law  
   (C) Lambert's law  (D) Bode's law

65. When the strain is recoverable but is also time dependent, the deformation is known as
   (A) Elastic  (B) Anelastic  (C) Plastic  (D) Ductile

66. A fold which is convex upwards and having younger rocks in its core may be described as a/an
   (A) Anticline  (B) Antiform  (C) Anticlinorium  (D) Synform

67. Thickening and thinning of beds at crests and troughs is found in
   (A) Open folds  (B) Similar folds  
   (C) Parallel folds  (D) Concentric folds

68. A material which basically obeys the viscous law but which behaves elastically for stresses of short duration is termed
   (A) Viscoelastic  (B) Elastoviscous  
   (C) Plastic  (D) Ductile

69. Which of the following secondary structures is a combination of planar and linear fabric components?
   (A) Joints  (B) Faults  (C) Fold axes  (D) Schistosity

70. The vertical sectional view of an area along a define line is known as a/an
   (A) Isolith  (B) Outcrop  (C) Contour  (D) Profile

71. Higher contours always enclose the lower ones in the case of a
   (A) Hill  (B) Valley  (C) Basin  (D) Spur

72. Contour lines cannot cross or touch each other except in the case of
   (A) Escarpments  (B) Scarp slope  
   (C) Waterfall  (D) Plateau

73. The exoskeleton of sponges is made up of
   (A) Silica  (B) Calcite  
   (C) Aragonite  (D) Calcium Phosphate
74. Which of the following is NOT a living fossil?
(A) Lingula  
(B) Nucula  
(C) Nautilus  
(D) Nummulites

75. Homeomorphy is an example of
(A) Convergent evolution  
(B) Divergent evolution  
(C) Parallel evolution  
(D) Adaptive specialization

76. The fauna which comprises exclusively of active swimmers is described as
(A) Plankton  
(B) Nekton  
(C) Benthic  
(D) Pelagic

77. The time of rapid evolutionary change of a new taxa or the adaptive radiation is also described as
(A) Tachytelic evolution  
(B) Bradytelic evolution  
(C) Orthogenesis  
(D) Paragenesis

78. Living fossils exhibit the phenomenon of
(A) Bradytelic evolution  
(B) Orthogenesis  
(C) Palingenesis  
(D) Tachgement

79. Fossil fecal pellets of ancient animals are described as
(A) Gastriliths  
(B) Coproliths  
(C) Beekite rings  
(D) Pseudo-fossils

80. ‘Biplication’ is a feature commonly exhibited by
(A) Brachiopods  
(B) Gasteropods  
(C) Pelecypods  
(D) Cephalopods

81. The most gigantic of all the mollusks were
(A) Pelecypods  
(B) Gasteropods  
(C) Nautiloids  
(D) Ammonites

82. The fastest moving species among the invertebrates belong to
(A) Pelecypods  
(B) Gasteropods  
(C) Cephalopods  
(D) Brachipods
83. The type area for the Sausar group is
   (A) Western Rajasthan  (B) Nagpur – Bhandara
   (C) Singhbhum (Bihar)  (D) Chindwara (M.P)

84. Among the following, the oldest rocks belong to
   (A) Sargur Schist Complex  (B) Banded Gneissic Complex
   (C) Older Metamorphic Group  (D) Iron ore Group.

85. The younger succession of rocks in the Kutch basin is known as
   (A) Bhuj formation  (B) Umia formation
   (C) Porbzander formation  (D) Madh formation

86. The Siwalik group of rocks were deposited in the Himalayan for deep during the
   stage of Himalayan orogeney
   (A) First  (B) Second  (C) Third  (D) Fourth

87. Which of the following areas is described as the “Field Museum in Paleontology”?
   (A) Vriddachalam (T.N)  (B) Duddukuru (A.P.)
   (C) Shevroy Hills (T.N)  (D) Rapur (Punjab)

88. The trend of the Spiti synclinorium is similar to that of
   (A) The Eastern Ghats  (B) The Aravallis
   (C) The Himalayas  (D) The Satpuras

89. In the Upper Gondwana rocks of the Godavari graben fossils are present in all the
   formations except
   (A) Yerrrapalli formation  (B) Bhimavaram Formation
   (C) Maleri formation  (D) Kanthi formation

90. To be classified as ‘laminae’ the thickness of each layer should be
   (A) > 1 cm  (B) < 1 cm  (C) > 2 cm  (D) < 2 cm

91. Ripples formed by water and wind differ in their
   (A) Symmetry  (B) Scale
   (C) Azimuth  (D) Ripple index
92. In nature roundness varies between
(A) 0.01 to 0.05    (B) 0.05 to 0.1
(C) 0.1 to 0.9     (D) 1.0 to infinity

93. The different colours of 'limonite' indicate the presence of
(A) Oxides        (B) Shuphides
(C) Carbonates    (D) Sulphates

94. Detailed survey for oil and gas is done by
(A) Seismic reflection     (B) Seismic refraction
(C) Geomagnetic methods   (D) Gravimetric methods

95. In the M.K.S system the magnetic field strength is expressed in the units called
(A) Oersted    (B) Tesla    (C) Weber     (D) Maxwell

96. Antarctic Ocean is located in
(A) North pole       (B) South Pole
(C) Equator         (D) Tropic of Capricorn

97. Which is the only existing Igneous Volcano in India?
(A) Narcondum            (B) Diglipur
(C) Barren Island        (D) Baratang

98. Which area has the highest rainfall in India?
(A) Bagamandala (Western ghats) (B) Saddle peak (Andaman Island)
(C) Minicoi (Laccadive Islands) (D) Chirapunji (Meghalaya)

99. 117 is divisible by
(A) 7     (B) 11    (C) 13     (D) 17

100. Highest Peak in the world is located in
(A) Andis        (B) Alps
(C) Himalayas    (D) Urals