

MA / M. Sc. GEOGRAPHY
FIRST SEMESTER
CLIMATOLOGY & OCEANOGRAPHY
MGE - 102

Duration: 3 Hrs.

Marks: 70

PART : A (OBJECTIVE) = 20
PART : B (DESCRIPTIVE) = 50

[PART-B : Descriptive]

Duration: 2 Hrs. 40 Mins.

Marks: 50

[Answer question no. One (1) & any four (4) from the rest]

1. What are the factors that govern insolation? Explain each one of them. 10
2. What is an air mass? Discuss the classification scheme of air mass. 2+8=10
3. Describe with illustrations how cyclonic and anticyclonic events occur. 10
4. Discuss the salient characteristics of Indian Monsoon and its impact on Indian economy. 10
5. What are the bases of Koppen's climatic classification? Discuss the climatic types. 10
6. Write short notes on any two: 2x5=10
 - a. Microclimates
 - b. Weather forecasting in climatology
 - c. Climate and human environment
7. Discuss the bottom relief of oceans with special reference to Atlantic and Indian ocean. 5+2.5+2.5=10
8. Discuss the salinity of oceans in terms of its- 2+3+5=10
 - a. Composition
 - b. Sources
 - c. Controlling factors

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[PART-A : Objective]

Choose the correct answer option from the following :

1×20=20

1. What is the atmospheric pressure at the altitude of 5.6 km from the earth's surface?
 - a. 10% of sea level pressure
 - b. 30% of sea level pressure
 - c. 50% of sea level pressure
 - d. 20% of sea level pressure
2. What is the term used for solid and liquid particles in the atmosphere?
 - a. Aerosol
 - b. Lithosol
 - c. Cosmic dust
 - d. Hygroscopic particles
3. What is process of transfer of energy without any material medium?
 - a. Conduction
 - b. Advection
 - c. Convection
 - d. Radiation
4. What is the planetary albedo?
 - a. 10%
 - b. 25%
 - c. 35%
 - d. 45%
5. What is the total amount insolation that is striking the earth's surface?
 - a. 23 million horse power
 - b. 23 billion horse power
 - c. 23 trillion horse power
 - d. 23,000 horse power
6. What do you called a centre of low pressure system?
 - a. Anticyclone
 - b. Tornado
 - c. Cyclone
 - d. Wedge
7. The dry adiabatic lapse rate of change in temperature is
 - a. 6.4 degree Celsius per 1000 m
 - b. 4.6 degree Celsius per 1000 m
 - c. 12 degree Celsius per 1000 m
 - d. 10 degree Celsius per 1000 m
8. Which type of air mass is associated with summer monsoon in Southeast Asia?
 - a. Maritime polar air mass
 - b. Maritime tropical air mass
 - c. Continental tropical air mass
 - d. Continental polar air mass
9. What is a cold front?
 - a. Cold air is invading warm air
 - b. Warm air is invading cold air
 - c. It is cold air mass
 - d. It is a region of cold areas
10. What is the letter symbol assigned by Koppen for dry climates?
 - a. A
 - b. B
 - c. C
 - d. D
11. The continental rise is often absent along Pacific margins because-
 - a. There are fewer submarine canyons
 - b. There are many deep trenches
 - c. Less sediment is eroded from the continents
 - d. Intense earthquake activity prevents its formation
12. Which of the following describes a sediment composed of particles that have been eroded from pre-existing rocks.
 - a. Ooze
 - b. Biogenons
 - c. Hydrogenons
 - d. Lithogenons
13. The period of a diurnal tide is
 - a. 12 hours
 - b. 24 hours & 50 minutes
 - c. 12 hours & 50 minutes
 - d. 12 hours & 25 minutes
14. Tropical coral reefs grow best at water temperature between
 - a. 10⁰-15⁰c
 - b. 13⁰-15⁰c
 - c. 18⁰-21⁰ c
 - d. 23⁰-15⁰ c
15. Isohalines are the isopleths of
 - a. Salinity
 - b. Ocean temperature
 - c. Hail
 - d. None

16. Lagoon is a stretch of water
- Partly separated by a narrow strip from the main sea
 - Fully separated by a narrow strip from the main sea
 - Partly or fully separated from the main sea
 - None
17. Dolphin- challenger ridge is located in the
- Atlantic ocean
 - Indian ocean
 - Pacific ocean
 - Arctic ocean
18. The bottom topography of an ocean can be shown by
- Altimetric curve
 - Hypsographic curve
 - Hydrostatic curve
 - None of these
19. Which one of the following sequences correctly represents the percentage of given salts in sea water in decreasing order
- Magnesium chloride-sodium chloride-magnesium sulphate-calcium sulphate
 - Magnesium sulphate- Magnesium chloride- calcium sulphate- sodium chloride
 - Sodium chloride- Magnesium chloride- magnesium sulphate- calcium sulphate
 - Sodium chloride - magnesium sulphate- Magnesium chloride - calcium sulphate
20. Match list I and list II and select the correct code-

List I

- Gulf stream
- West wind drift
- Peru current
- West Australian current

List II

- Pacific ocean
- A slow eastward movement of water over the zone of westerly winds
- Indian ocean
- Warm current

Codes:	A	B	C	D
a.	4	2	1	3
b.	1	3	4	2
c.	4	3	1	2
d.	1	2	4	3

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UNIVERSITY OF SCIENCE & TECHNOLOGY, MEGHALAYA



[PART (A) : OBJECTIVE]

Duration : 20 Minutes

Serial no. of the main Answer sheet

Course :

Semester : Roll No :

Enrollment No : Course code :

Course Title :

Session : 2017-18 Date :

Instructions / Guidelines

- The paper contains twenty (20) / ten (10) questions.
- Students shall tick (✓) the correct answer.
- No marks shall be given for overwrite / erasing.
- Students have to submit the Objective Part (Part-A) to the invigilator just after completion of the allotted time from the starting of examination.

Full Marks	Marks Obtained
20	

Scrutinizer's Signature

Examiner's Signature

Invigilator's Signature