2023/06

M.Sc. ENVIRONMENTAL Sc.
FOURTH SEMESTER
ENVIRONMENTAL GEOSCIENCES & METEOROLOGY
MEV – 401
[USE OMR FOR OBJECTIVE PART]

SET A

Duration: 3 hrs.

Full Marks: 70

(**Objective**)

Time: 30 min.

Marks: 20

Choose the correct answer from the following:

1X20=20

1. Which of the following is not a mineral?
   a. Coal
   b. Amber
   c. Pearl
   d. All of above

2. Igneous rock begins as -----
   a. Magma
   b. Mineral
   c. Sediment
   d. None of above

3. Granite is an example of
   a. Igneous rock
   b. Sedimentary rock
   c. Metamorphic rock
   d. All of above

4. North East India is located at the boundary of
   a. Indian plate and Himalayan plate
   b. Indian plate & China plate
   c. Indian plate & Eurasian plate
   d. Indian plate and Russian plate

5. The theory of sea floor spreading was proposed by
   a. Alfred Wegener
   b. Hary Hess
   c. Holmes and Davis
   d. None of above

6. The colour of a mineral in its powdered form is
   a. Lustre
   b. Brightness
   c. Streak
   d. None of above

7. Which of the following is not a geological hazard?
   a. Flood
   b. Earthquake
   c. Tsunami
   d. Mine fire

8. Hardness of finger nail is
   a. 1
   b. 2.5
   c. 5
   d. 7.5

9. What is the percentage of freshwater available on the Earth?
   a. 97
   b. 5.4
   c. 4.6
   d. 2.7

[1]

10. Albedo for the entire earth is about 0.34, which means
   a. Earth receives only 34% of total insolation
   b. 34% of total insolation is absorbed in the atmosphere
   c. Earth reflects about 34% of total insolation
   d. none of the above

11. Brightness of sky during daytime is caused due to _____
   a. twilight
   b. reflectance
   c. diffused light
   d. none of the above

12. Ozone layer can absorb UV radiation ranging _____
   a. 0.9 – 2.1 µm
   b. 1.2 – 2.1 µm
   c. below 0.9 µm
   d. above 2.1 µm

13. Solar constant is about _____
   a. 1630 Wm^{-2}
   b. 1036 Wm^{-2}
   c. 1376 Wm^{-2}
   d. 3160 Wm^{-2}

14. Earth is situated at a distance of about _____ km away from the sun.
   a. 1.5 million
   b. 15 million
   c. 150 million
   d. 1500 million

15. Where are Rain forests found?
   a. Central India
   b. North-Eastern Himalayas and Western Ghats
   c. Eastern Ghats
   d. North-Western Himalayas and Eastern Ghats

16. Indian monsoon is marked by seasonal shift caused by,
   a. Differential heating of land and sea
   b. Cold winds of Central Asia
   c. Great uniformity of temperature
   d. None of these

17. The Indian state which receives high rainfall due to western disturbances is,
   a. Punjab
   b. West Bengal
   c. Kerala
   d. Gujarat

18. The northeastern hills that block the South West Monsoon winds and cause heavy rains in Assam are,
   a. Arakan Yoma and Pegu Yoma
   b. Garo Khasi and Jaintia hills
   c. Barail and Patkai hills
   d. Khasi and Pegu Yoma

19. Which part of India receives rainfall from both the South-West and North-West monsoons?
   a. Tamil Nadu
   b. Odisha
   c. Lakshadweep Islands
   d. Andaman and Nicobar Islands

20. The clouds float in atmosphere because of
    a. Low Temperature
    b. Low Velocity
    c. Low Pressure
    d. Low Density

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(__Descriptive__)

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

1. What are the evidences in support of continental drift hypothesis? How did Plate tectonics overcome limitations of the Continental drift hypothesis? 5+5=10

2. What are difference between meteorology and climatology? Describe the climatic parameters. 5+5=10

3. What is Monsoon? Explain the monsoon rainfall in India. 3+7=10

4. What are different types of minerals? Write about properties of minerals. 2+7=10

5. Write about different types of rocks. What are the differences between Intrusive rocks and Extrusive rocks? 6+4=10

6. Write short note on *(any two)* 5+5=10
   a. Structure of atmosphere
   b. Layers of the Sun
   c. Folds and faults in rock

7. What is insolation? Discuss in details the factors affecting insolation. 2+8=10

8. Write an explanatory note on atmospheric heat budget with suitable diagram. 10

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