K20P 0784

Reg. No. : .....

Name : .....

Ph.D. Entrance Examination, 2020-21
Part – B : GEOLOGY

Time : 70 Minutes

Max. Marks : 50

SECTION – A

Answer **all** questions. Choose the correct answer.

1. The core-mantle interface is at _____ km.
   A) 2900
   B) 5200
   C) 6371
   D) 700

2. Hadean Eon lasted between _____ and _____
   A) 4 billion years and 3.6 billion years
   B) 4.6 billion years and 4 billion years
   C) 2.5 billion years and 3 billion years
   D) 1.6 billion years and 0.6 billion years

3. Which is not a fluvial geomorphologic feature ?
   A) Levee
   B) Terrace
   C) Arete
   D) Point bar

4. The deepest part of the ocean floor
   A) Continental shelf
   B) Continental slope
   C) Guyot
   D) Abyssal plain

5. Ozone depletion mainly takes place in the
   A) Stratosphere
   B) Troposphere
   C) Thermosphere
   D) Mesosphere

P.T.O.

6. Which is the major ore mineral of iron in the iron ore deposits of Eliyottimala and Nanminda in Kerala ?
   A) Magnetite
   B) Limonite
   C) Hematite
   D) Siderite

7. Which is a pathfinder element for gold deposits ?
   A) Cobalt
   B) Molybdenum
   C) Antimony
   D) Arsenic

8. Which is not seen in the Khondalites of Kerala ?
   A) Garnet
   B) Sillimanite
   C) Graphite
   D) Diopside

9. Komatiites are of _____ age.
   A) Cambrian
   B) Archaean
   C) Tertiary
   D) Cretaceous

10. Which one of the following planets has the highest mean density ?
   A) Earth
   B) Venus
   C) Mercury
   D) Saturn

11. Find the mismatch
   A) Pyrrhotite – FeS_2
   B) Rhodocrocite – $MnCO_3$
   C) Greenockite – CdS
   D) Rutile – TiO_2

12. Which is true about uniaxial mineral sections ?
   A) Prismatic sections show parallel extinction
   B) Basal sections are anisotropic
   C) Random sections show parallel extinction
   D) All sections show parallel extinction

13. _____ can travel through liquids.
   A) P-waves
   B) Rayleigh waves
   C) Love waves
   D) S-waves

14. Which is not a gastropod ?
    A) Calymene
    B) Turritella
    C) Conus
    D) Murex

15. The Indian Institute of remote sensing is located at
    A) Dehra Dun
    B) Pune
    C) Hyderabad
    D) Ahmedabad

16. The permissible upper limit of fluoride in groundwater, as fixed by BIS, is
    A) 1.0 ppm
    B) 1.5 ppm
    C) 10 ppm
    D) 100 ppm

17. Mural joints are characteristic of
    A) Limestone
    B) Basalt
    C) Granite
    D) Schist

18. _____ method is commonly used in the exploration of metallic sulphide deposits.
    A) Magnetic
    B) Self-potential
    C) Gravity
    D) Radioactive

19. The average annual rainfall of Kerala is
    A) More than 4000 mm
    B) Less than 2000 mm
    C) More than 3000 mm
    D) Less than 1500 mm

20. The rocks younger than 4200 years are now put under _____ stage.
    A) Recent
    B) Maestrichian
    C) Meghalayan
    D) Spiti

(20×1=20)

SECTION – B

Describe **any six** of the following :

1. Radiocarbon dating.
2. Chemical and mineral composition of the mantle.
3. Types of tectonites.
4. Significance of fossils.
5. Elements of air-photo interpretation.
6. Ghyben-Herzberg relation.
7. Sea floor spreading and magnetic anomalies.
8. Physico-chemical factors affecting marine life. **(6×5=30)**

K19P 0591

Reg. No. : .....

Name : .....

Ph.D. Entrance Examination, 2019
Part – B – GEOLOGY

Time : 70 Minutes

Total Marks : 50

SECTION – A

Answer **all** questions. Choose the correct answer .

1. The International Treaty through which shipment of hazardous waste is regulated
   A) The Kyoto Protocol
   B) The Sydney Protocol
   C) The Rio Convention
   D) The Basel Convention
2. The crystal class in which there is maximum number of axes of symmetry
   A) Tetragonal normal
   B) Isometric normal
   C) Monoclinic normal
   D) Orthorhombic normal
3. All the pleochroic minerals contain
   A) Iron B) Manganese C) Magnesium D) Calcium
4. Among the following rocks which one is common in Moon ?
   A) Anorthosite B) Basalt C) Granite D) Sandstone
5. Among the following rocks which one is not a normative mineral in CIPW norm ?
   A) Diopside B) Corundum C) Hornblende D) Hypersthene
6. In the Phanerozoic Eon which is **not** a period of major mass extinctions ?
   A) Late Devonian
   B) Late Permian
   C) Late Jurassic
   D) End Triassic

7. Minamata disease is caused by _____ poisoning.
   A) Mercury B) Arsenic C) Chromium D) Cadmium
8. The Polar satellites orbit _____above the surface of the earth.
   A) 700-1000 km B) 250-400 km
   C) 2500-3000 km D) 100-200 km
9. Ocean tides are formed due to
   A) Waves
   B) Wind
   C) Gravitational attraction of the Sun and the Moon
   D) Gravitational attraction of the earth
10. Typical Acid rain has a pH value of
    A) 4.0 B) 5.5 C) 2.5 D) 7.5
11. Which one is not a major element in the Earth's crust ?
    A) Fe B) Na C) Mg D) Ti
12. Transcurrent faults are _____ faults.
    A) Strike-slip B) Dip-slip C) Strike D) Oblique-slip
13. Sivapithecus, Cercopithecus, Palaeopithecus and Sugrivapithecus are fossils found in
    A) Triassic rocks of Spiti B) Jurassic rocks of Kutch
    C) Siwalik rocks Himalayas D) Cretaceous rocks of Trichnapoly
14. The most common geophysical method used in the exploration of ground water
    A) Electrical resistivity B) Self potential
    C) Gravity D) Magnetic
15. Picrite is a variety of
    A) Diorite B) Peridotite C) Basalt D) Pegmatite
16. Bailadila is rich in _____ ore deposits.
    A) Manganese B) Iron
    C) Aluminium D) Copper

17. Chengannur, Munnar, Ambalavayal and Kalpatta in Kerala have well studied

A) Gabbros B) Pegmatites C) Syenites D) Granites

18. Fenitization is associated with

A) Komatites B) Carbonatites C) Lamprophyres D) Anorthosites

19. The science that deals with the study of rivers is called

A) Icthyology B) Speleology C) Potomology D) Palynology

20. Which among the following is a true tectonic mountain in Peninsular India ?

A) Vindhyans B) Western Ghats

C) Aravalli D) Eastern Ghats **(20×1 =20)**

SECTION – B

Describe **any six** of the following :

1. Divisions of the Cenozoic Era
2. Cyclones and anti-cyclones
3. Assimilation Fractional Crystallization (AFC)
4. Uniaxial Indicatrix
5. Eh-pH limits in nature
6. Drainage Patterns
7. Extinctions at K/T boundary
8. Well-logging. **(6×5=30)**
