

Seat No.	
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M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Applied Geology
MINEROLOGY AND OPTICS

Time: 2½ Hours

Max. Marks: 70

Instructions: 1) All questions are compulsory.
 2) Figures to the right indicate full marks.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) Minerals which show isotropic nature are crystallized in _____ system.
 - a) Cubic
 - b) Trigonal
 - c) Orthorhombic
 - d) Triclinic
- 2) Find odd one out
 - a) Colour
 - b) Luster
 - c) Hardness
 - d) Quartz
- 3) Admentine is the luster shown by _____.
 - a) Topaz
 - b) Diamond
 - c) Calcite
 - d) Olivine
- 4) Feldspar group of minerals are classed as _____.
 - a) Nesosilicates
 - b) Sorosilicates
 - c) Tectosilicates
 - d) Phyllosilicates
- 5) Becke line method is employed for determination of _____.
 - a) 2v
 - b) R.I.
 - c) Extinction
 - d) Pleochroism
- 6) Aluminosilicate group of minerals are having chemical formula _____.
 - a) Al_2SiO_5
 - b) Al_3SiO_5
 - c) $AlSiO_5$
 - d) Al_2SiO_6
- 7) Among the following minerals, which is the common mica mineral
 - a) Kaolinite
 - b) Montmorillonite
 - c) Bentonite
 - d) Muscovite
- 8) Which of the following is biaxial mineral
 - a) Muscovite
 - b) Quartz
 - c) Rutile
 - d) Beryl
- 9) Wollastonite has a chemical formula
 - a) $CaSiO_3$
 - b) $MgSiO_3$
 - c) $FeSiO_3$
 - d) $MnSiO_3$
- 10) Alkali feldspar has a _____ extinction
 - a) Straight
 - b) Oblique
 - c) Both of the above
 - d) None of the above
- 11) Which of the following amphibole mineral
 - a) Actinolite
 - b) Fayalite
 - c) Bronzite
 - d) Hypersthene
- 12) Diamond primarily occurs in _____.
 - a) Basalt
 - b) Kimberlite
 - c) Pegmatite
 - d) Granites

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M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Applied Geology
GEOCHEMISTRY

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
 2) Figures to the right indicate full marks.
 3) Draw neat and labeled diagram wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) _____ have least electro-negativity.
 - a) Lithophiles
 - b) Siderophiles
 - c) Chalcophiles
 - d) Atmophile
- 2) The activity of radioisotope changes with _____.
 - a) Temperature
 - b) Chemical Environment
 - c) Pressure
 - d) None
- 3) A radioactive substance emits _____.
 - a) Alpha Particle
 - b) Gamma Particle
 - c) Beta particle
 - d) All of the above
- 4) The isotope used for dating archeological finding is _____.
 - a) $^1\text{H}_1$
 - b) $^{14}\text{C}_6$
 - c) $^{18}\text{O}_8$
 - d) $^{235}\text{U}_{92}$
- 5) Which of the following is not a suitable pair?
 - a) K-Rb
 - b) Al-Ga
 - c) Ca-Sr
 - d) Si-Pb
- 6) Elements with completely full outermost shells are grouped under _____.
 - a) Lithophiles
 - b) Siderophiles
 - c) Chalcophiles
 - d) Atmophiles
- 7) Siderites are _____.
 - a) Stony Meteorites
 - b) Stony-Irons Meteorites
 - c) Iron Meteorites
 - d) Copper Meteorites
- 8) The upper mantle having _____.
 - a) Granitic composition
 - b) Basic composition
 - c) Ultrabasic composition
 - d) Felsic composition
- 9) Chromium is a straggly lithophile element in the earth's crust, but it is found as a chalcophilite in some meteorites because of _____.
 - a) Oxygen rich
 - b) Oxygen deficiency
 - c) Hydrogen deficiency
 - d) Carbon deficiency
- 10) Water loving Colloids are called as _____.
 - a) Hydrophobic
 - b) Hydrophilic
 - c) Dispersion
 - d) Emulsions
- 11) The bulk chemical composition of rock during metamorphism _____.
 - a) Decreases
 - b) Increases
 - c) Remain constant
 - d) Uncertain

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M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Applied Geology
SEDIMENTOLOGY AND PALAEOLOGY

Time: 2½ Hours

Max. Marks: 70

Instructions: 1) All questions carry equal marks.
 2) Draw neat and labeled diagram wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) Choose the wrong answer from the option given below:-
 - a) Are compacted
 - b) Form because of deposition of sediments
 - c) Are primary rocks
 - d) Contain a matrix
- 2) What type of sediment particles have worn surfaces and rounded corners?
 - a) Sorted
 - b) Clastic
 - c) Unsorted
 - d) Dissolved
- 3) What type of bedding has the heaviest and coarsest material is on the bottom?
 - a) Graded
 - b) Cementation
 - c) Clastic
 - d) Metamorphic
- 4) Which is a sedimentary rock that forms as a result of precipitation from seawater?
 - a) Shale
 - b) Gypsum
 - c) Conglomerate
 - d) Sandstone
- 5) Which sedimentary rock is composed of fragmented skeletons and shells of sea organisms compacted and cemented together?
 - a) Shale
 - b) Sandstone
 - c) Gypsum
 - d) Limestone
- 6) A sediment contains particles that range in diameter from 2 to 4 centimeters. Which sedimentary rock would be formed when this sediment is compressed and cemented together?
 - a) Sandstone
 - b) Shale
 - c) Siltstone
 - d) Conglomerate
- 7) A geologist studies sandstone under microscope and discover that its sand particle are very sharp, angular pieces of quartz and lithic fragments. What can be deduced from this observation?
 - a) The sand was tumbled vigorously in a stream
 - b) The sand was subjected to very high pressure during diagenesis
 - c) The sand was did not travel very far from where its parent rock disintegrated
 - d) The sand was transported by wind in desert environment
- 8) Fossils which have limited geological range but have a very wide geographical range is known as
 - a) Trace fossils
 - b) Body fossils
 - c) Living fossils
 - d) Index fossils

Q.5 Answer the following. (Any two)

- a)** Define rocks texture. What are different parameter to identify sedimentary rock on field?
- b)** Define diagenesis. Explain different process in diagenesis with diagrams.
- c)** Write note on Evolution of man.

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M.Sc. (Semester - I) (CBCS) Examination Nov/Dec-2018
Applied Geology
ECONOMIC GEOLOGY

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
 2) Figures to the right indicate full marks.
 3) Draw neat and labeled diagrams wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) India's largest aluminum deposits are associated with _____.
 a) Gondwana Super group b) Eastern Ghats Mobile belt
 c) Lesser Himalayas d) Mahakoshal group
- 2) In India, which one of the following ore minerals is produced mostly from beach sand?
 a) Cassiterite b) Hematite
 c) Ilmenite d) Magnetite
- 3) Rampura-Agucha in Rajasthan is known for the ore deposit of _____.
 a) Gold b) Tungsten
 c) Zinc d) Iron
- 4) Which one of the following economic mineral does not belong to the category of magmatic deposit?
 a) Chromite b) Titaniferous magmatic
 c) Cu-Ni sulphide d) Magnesite
- 5) Porphyry copper deposits are formed by which one of the following ore forming process?
 a) Magmatic b) Magmatic hydrothermal
 c) Sedimentary d) Metamorphic
- 6) _____ characterized by the clays dickite, kaolinite and pyrophyllite (all hydrated aluminum silicate) and quartz.
 a) Advanced argillic alteration b) Argillic alteration
 c) Propylitic alteration d) Potassic alteration
- 7) Which one of the following metals occurs as native metal, oxide and sulphide in the earth's crust?
 a) Iron b) Copper
 c) Uranium d) Gold
- 8) Identify the odd pair of minerals among the following:
 a) Goethite – siderite b) Pyrite – marcasite
 c) Pyrite – pyrrhotite d) Hematite – magnetite
- 9) In which one of the following lists, minerals are arranged in order of increasing temperature of crystallization
 a) Galena – gibbsite – chromite b) Gibbsite – galena - chromite
 c) Gibbsite – chromite – galena d) Galena – chromite - gibbsite
- 10) Economic deposit of primary Uranium is most likely to be found in _____.
 a) Gabbro b) Rhyolite
 c) Sandstone d) Peridotite

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M.Sc. (Semester - II) (CBCS) Examination Nov/Dec-2018
Applied Geology
IGNEOUS AND METAMORPHIC PETROLOGY

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) Answer any five questions.
 2) All questions carry equal marks.
 3) Question No. 1 is compulsory.
 4) Answer any two questions from Q. No. 2, 3, & 4 and two questions from Q. No. 5, 6, & 7.
 5) Draw neat and labeled diagrams wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) The characteristic mineral assemblage of khondalite is :
 - a) Garnet-feldspar
 - b) Biotite
 - c) Plagioclase-clinopyroxene
 - d) Cordierite-spinel
- 2) Any reversal of metamorphism which produces rocks of a lower metamorphic grade is _____.
 - a) Retrograde metamorphism
 - b) Progressive metamorphism
 - c) Dynamothermal metamorphism
 - d) Thermal metamorphism
- 3) The distinctive rock assemblage containing ultramafic, gabbroic and basaltic rocks often capped by layers of deep sea sediments are termed as _____.
 - a) Calc-alkaline
 - b) Hornfels
 - c) Granulites
 - d) Ophiolites
- 4) Ophitic texture is commonly exhibited by _____.
 - a) Andesite
 - b) Trachyte
 - c) Dolerite
 - d) Lamprophyre
- 5) Liquid immiscibility is explained as the process of formation of _____.
 - a) Carbonatite
 - b) Phonolite
 - c) Lamprophyre
 - d) Kimberlite
- 6) The Norms or CIPW classification is essentially a _____ classification.
 - a) Mineralogical
 - b) Chemical
 - c) Genetic
 - d) Textural
- 7) The process of production of different magma and rocks from a single parent magma.
 - a) Partial melting
 - b) Magma variation
 - c) Magma differentiation
 - d) Magma mixing
- 8) Which of the following lists is arranged in order from lowest to highest grade of metamorphic rocks?
 - a) gneiss, slate, schist, phyllite
 - b) gneiss, schist, phyllite, slate
 - c) slate, gneiss, phyllite, schist
 - d) Slate, phyllite, schist, gneiss
- 9) IUGS has recommended a classification scheme called Total Alkaline Silica (TAS) for
 - a) Volcanic rock
 - b) Plutonic rocks
 - c) Hypabyssal rocks
 - d) Mafic rocks

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M.Sc. (Semester - II) (CBCS) Examination Nov/Dec-2018
Applied Geology
INDIAN STRATIGRAPHY

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) All questions carry equal marks.
 2) Question 1 is compulsory.
 3) Answer any two essay questions from Q. 2, 3, 4.
 4) Answer any two short note questions from Q. 5, 6, 7.
 5) Draw neat and labeled diagrams wherever necessary.

Q.1 Marks the correct objective.**14**

- 1) The Triassic and Jurassic rocks of the Tethyan Himalaya are predominantly composed of _____ facies.
 - a) Greenschist facies
 - b) Carbonate facies
 - c) Granulite facies
 - d) Zeolite facies
- 2) In the Spiti-Kinnaur sub-basin of Himalaya, the Lipak formation is conformably overlain by a thick succession of shales and quartzites that has been named as _____.
 - a) Muth quartzite
 - b) Po formation
 - c) Fenestella shales
 - d) All the above
- 3) In Son-Mahanadi area, the Barakar Formation of Lower Gondwana is overlain by _____.
 - a) Talchir formation
 - b) Karharbari formation
 - c) Barren measures
 - d) Kamthi formation
- 4) Rise of Himalaya took place in _____ period.
 - a) Triassic
 - b) Late Cretaceous
 - c) Tertiary
 - d) Recent
- 5) Which formation of Saucer group is more important for manganese ore:-
 - a) Sitasaong formation
 - b) Mansar formation
 - c) Lohangi formation
 - d) All the above
- 6) End of the Archaean is marked by _____.
 - a) Sedimentation
 - b) Burst of the granitic intrusion
 - c) Folding and faulting
 - d) All the above
- 7) The preservation of detrital pyrite and uraninite with highly mature arenites at the base of Late Archaean Bababudan schist belt is evidence for _____.
 - a) Their deposition in stable platform and/or shelf regime under anoxic atmosphere
 - b) Their deposition in unstable platform under anoxic atmosphere
 - c) Their deposition takes place under changing atmospheric conditions
 - d) All the above
- 8) Gaj series is mainly composed of _____.
 - a) Sandstone
 - b) Limestone and shale
 - c) Granite
 - d) Marble

- 9) Granitoids of the southern peninsular shield ranging in age from
 a) Late Archaean to middle Proterozoic
 b) Early Archaean to Early Proterozoic
 c) Archaean to Late Proterozoic
 d) Late Proterozoic to Cambrian
- 10) The regional strike of Dharwar group of rocks is _____.
 a) N-S
 b) NW-SE
 c) E-W
 d) NNW-SSE
- 11) Cu deposit of Khetri belt are associated with _____.
 a) Alwar quartzite
 b) Ajabgarh scist
 c) Alwar slate
 d) Ajabgarh limestone
- 12) Benganapalli stage of Kurnool group contains _____ deposit.
 a) Zinc
 b) Diamond
 c) Tungsten
 d) All the above
- 13) Pir-Panjaj traps belongs to _____.
 a) Permian age
 b) Ordovician age
 c) Upper carboniferous
 d) Devonian
- 14) In spiti area the Triassic rocks overlies _____.
 a) Productus shale
 b) Muth quartzite
 c) Lipak series
 d) PO series

- Q.2** Give an account on Marine Mesozoic formations of Extra peninsula of India. **14**
- Q.3** Discuss in detail Structure, Stratigraphy & Tectonic evolution of Arvalli Supergroup. **14**
- Q.4** Write in detail Precambrian-Cambrian boundary problems of India. **14**
- Q.5** **Write short note on:** **14**
 a) Cuddapah Supergroup
 b) Indravati Basin
- Q.6** **Discuss in brief of the following:** **14**
 a) Sausar group
 b) Deccan volcanic province
- Q.7** **Write short note on:** **14**
 a) Saline series
 b) Peninsular Gneissic complex

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M.Sc. (Semester - III) (CBCS) Examination Nov/Dec-2018
Applied Geology
MINERAL EXPLORATION

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
 2) Figures to the right indicate full marks.
 3) Draw neat and labeled diagrams wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) Productive plutons for gold deposit in India are
 - a) Kimberlite
 - b) Greenstones
 - c) Green schist
 - d) Granite
- 2) The pathfinder element "No" is useful in locating
 - a) Au deposits
 - b) Tin deposits
 - c) Porphyry Cu deposit
 - d) None
- 3) "Galmi flora" is a good universal indicator for
 - a) Base metals
 - b) Tungsten
 - c) Mica
 - d) All of the above
- 4) What would be the value of E in the equation $E = P\sqrt{\quad}$ during exploration if suitable method of exploration is not employed.
 - a) One
 - b) Two
 - c) Three
 - d) Zero
- 5) The best productive rock in exploration of cassiterite deposit is
 - a) Anorthosite
 - b) Ultramafics
 - c) α – Granite
 - d) None
- 6) Hydromorphic anomalies are noticed for the element that are soluble in water and the best example is for
 - a) Base metal
 - b) Gold
 - c) Cassiterite
 - d) None
- 7) During a reconnaissance survey we determine
 - a) Sample density
 - b) Element to be analyzed
 - c) Draw attention to local areas of interest
 - d) All of the above
- 8) Drilling is employed for
 - a) Determining the stratigraphy or rock sequence
 - b) Locating and evaluating substances of economic value
 - c) Obtaining data for correlating
 - d) All of the above
- 9) Natural gamma ray log exhibits a high response from
 - a) Shale
 - b) Lime stone
 - c) Dolomite
 - d) Sandstone
- 10) Self potential and induced potential survey to locate ore bodies of
 - a) Electromagnetic method
 - b) Seismic method
 - c) Magnetic method
 - d) Radiometric method

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M.Sc. (Semester - III) (CBCS) Examination Nov/Dec-2018
Applied Geology
ENGINEERING GEOLOGY AND MINING GEOLOGY

Time: 2½ Hours

Max. Marks: 70

Instructions: 1) All questions are compulsory.
 2) Figures to the right indicate full marks.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) Tensile stress is _____.
 a) Stress caused by varying loads
 b) Stress due to any force
 c) Stress due to change in length
 d) Ratio of increase or decrease in length of the unloaded piece under tensile force
- 2) Idduki dam is an example of _____.
 a) Gravity dam
 b) Arch dam
 c) Earth dam
 d) Buttress dam
- 3) When the aggregate is sieved through _____ sieve, the aggregate passed through it called as fine aggregates.
 a) 4.45 mm
 b) 4.49 mm
 c) 4.75 mm
 d) 5.0 mm
- 4) Intensity of earthquake is measured in _____.
 a) Richter scale
 b) MSK scale
 c) both of above
 d) None of the above
- 5) If the moisture condition of an aggregate is greater than its absorption potential is called as _____.
 a) Oven-dry
 b) Air-dry
 c) Saturated surface dry
 d) Damp or wet
- 6) Two methods used in mining are _____.
 a) Surface mining and subsurface mining
 b) Surface mining and open cast mining
 c) Underground mining and Underwater mining
 d) None of the above
- 7) If the RQD value of the rock becomes less than 25% then it is called as
 a) Very good rock
 b) Poor rock
 c) Excellent rock
 d) Very poor rock
- 8) Which of the following type of rocks has the highest compressive strength
 a) Diorite
 b) Shale
 c) Gneiss
 d) marble
- 9) The very slow down slope movement of a dry soil is called as _____.
 a) Solifluction
 b) Slide
 c) Creep
 d) Earthflow
- 10) Quarries are generally _____.
 a) Open pits
 b) Surface coal mine
 c) Underground mines
 d) Explosive mines

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M.Sc. (Semester - IV) (New) (CBCS) Examination Nov/Dec-2018
Applied Geology
ENVIRONMENTAL GEOLOGY AND DISASTER MANAGEMENT

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) Answer any five questions.
 2) All questions carry equal marks.
 3) Question No. 1 is compulsory.
 4) Answer any 2 questions from Q.No.2, 3 & 4 and 2 questions Q.No.5, 6 & 7.
 5) Draw neat and labeled diagrams wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) What are the technologies involved in the detection of Tsunami?
 - a) Satellites to provide warning of tsuna-migenic earthquakes
 - b) Coastal tidal gauges
 - c) Tsunami detectors linked to land by submarine cables
 - d) All of the above
- 2) Hardness that can be removed by boiling is called _____.
 - a) Temporary hardness
 - b) Permanent hardness
 - c) Both a and b
 - d) None of these
- 3) Urbanization usually results in an increase in flood frequency because _____.
 - a) Less water is able to runoff in streams
 - b) Less water is able to infiltrate into the ground, so instead is discharged rapidly into streams
 - c) More water is used by humans and then discharged to streams
 - d) Rainfall is greater in urban areas than in rural areas.
- 4) Vibrations radiate from focus in all direction as
 - a) Longitudinal waves
 - b) Transverse waves
 - c) Seismic waves
 - d) Typanic waves
- 5) Which of the following is a powerful irritant which can aggravate symptoms of people who suffer from respiratory disorders?
 - a) Sulphur dioxide
 - b) Carbon monoxide
 - c) Carbon dioxide
 - d) Oxides of nitrogen
- 6) Tsunamis are generated by?
 - a) Landslides under water
 - b) Earthquakes
 - c) Volcanic Eruptions
 - d) All of the above
- 7) Which of the following activities is covered by Disaster Management before, during or after a disaster?
 - a) Reconstruction and Rehabilitation
 - b) Mitigation
 - c) Emergency response
 - d) All of the above
- 8) Which of the following are the methods of disposal of waste?
 - a) Open dumping methods and compost pit methods
 - b) Sanitation
 - c) Recycling
 - d) Reusing

- 9) Find the odd man out:
 a) Percolation tank
 b) Nala bunding
 c) Drip irrigation
 d) Check dam
- 10) Which of the following disease increase due to green house effects?
 a) Malaria
 b) Dengue
 c) Yellow fever
 d) All of the above
- 11) The solid waste from hospital is classified as
 a) Hazardous
 b) Compostable
 c) Non hazardous
 d) Combustible
- 12) Which of the following not causes water-borne disease in India?
 a) Nitrate
 b) Arsenic
 c) Fluoride
 d) Alkalinity
- 13) Taj Mahal is threatened by pollutant from
 a) Nitric oxide
 b) Carbon oxide
 c) Sulphur oxide
 d) Chlorine
- 14) Major tsunamis are generated by earthquakes along
 a) Divergent margins
 b) Transform margin
 c) Convergent margins
 d) None of the above

- Q.2** What is drought? Explain its types, causes and suggest the mitigation measures for drought prone area **14**
- Q.3** What the different types of air pollutants? Explain how does green house effect cause global warming, **14**
- Q.4** Explain the solid waste management. Give an outline of the modes of solid waste disposal. **14**
- Q.5 Explain the following:-** **14**
 a) Cyclone and its types.
 b) Role of remote sensing and GIS in disaster management
- Q.6 Describe in brief the following:-** **14**
 a) Volcanic hazards
 b) Biological water pollutants
- Q.7 Write short note on the following:-** **14**
 a) Killari earthquake
 b) Types of landslide

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M.Sc. (Semester - IV) (New) (CBCS) Examination Nov/Dec-2018
Applied Geology
REMOTE SENSING AND GIS

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) All questions carry equal marks.
 2) Question 1 is compulsory.
 3) Answer any two essay questions from 2, 3, 4.
 4) Answer any two short notes questions from 5, 6, 7.
 5) Draw neat and labeled diagrams wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) FCC stands for _____.
 a) Falles Colour Composite b) False Colour Composite
 c) Few Colour Complex d) All of the above
- 2) _____ in form vector data Generate.
 a) Point b) Line
 c) Polygon d) All of the above
- 3) Which of the following satellite series concerned India?
 a) Land sat b) Spot
 c) IRS d) JRS
- 4) G.P.S. provides data of _____.
 a) Latitude b) Longitude
 c) Height d) All of the above
- 5) Remote sensing system which use the naturally available energy are called as _____.
 a) Passive sensor b) Active sensors
 c) Both a & b d) None of the above
- 6) Ratio between map distance and ground distance _____.
 a) Map scale b) Projection
 c) Resample d) Datum
- 7) The word RADAR is an acronym for _____.
 a) Radio Detection and Rays b) Reflection Detection and Range
 c) Radio Device and Range d) Radio Detection and Ranging
- 8) DIP is known as _____.
 a) Digital Image Process b) Dot Image Process
 c) Digital Image Product d) All of the above
- 9) Altitude of geostationary satellite is _____.
 a) 20000 Km b) 36000 Km
 c) 900 Km d) 700 Km
- 10) DBMS stands for _____.
 a) Data building management system
 b) Distribution building management system
 c) Database management system
 d) Distribution building manipulation system

- 11) Which of the following one of the following mineral is found in monazite sand
- | | |
|------------|--------------|
| a) Uranium | b) Potassium |
| c) Thorium | d) Sodium |

12) Match the following and choose the correct answer:-

Basin	Structure
a. Bombay high	1. Double plunging anticline
b. Cambay basin	2. Elongated structure dome.
c. Assam shelf	3. Folded asymmetrical anticline
d. Tripura-Cachar basin	4. Anticline
a) a-1 b-2 c-3 d-4	b) a-2 b-3 c-4 d-1
c) a-1 b-3 c-2 d-4	d) a-3 b-4 c-2 d-1

- 13) Radioactive waste is generally treated by _____.
- | | |
|-----------------------------------|---------------------------|
| a) Ammonia to neutralize it | b) Bacteria to consume it |
| c) Storage until it gets harmless | d) Acid to decompose it |
- 14) Radiations of radioactive waste remain for thousands of years, so they are stored in _____.
- | | |
|-------------------|------------|
| a) Isolated tanks | b) Wells |
| c) Reservoirs | d) Ditches |

- Q.2** What is trap rock? Explain various types of trap. **14**
- Q.3** How coal is formed? Explain in detail petrographic classification of coal. **14**
- Q.4** Give an account on distribution of Atomic mineral in India and its uses. **14**
- Q.5** **Discuss the following question in short.** **14**
- | |
|---------------------------------------|
| a) Salt dome |
| b) Explain shale and oil gas hydrate. |
- Q.6** **Write short notes on.** **14**
- | |
|---|
| a) Migration of oil |
| b) Brief introduction to radioactive surveys. |
- Q.7** **Write short notes on.** **14**
- | |
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| a) Types of fuels |
| b) Non-conservation energy resource in India. |

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M.Sc. (Semester - IV) (Old) (CBCS) Examination Nov/Dec-2018
Applied Geology
ENVIRONMENTAL GEOLOGY & DISASTER MANAGEMENT

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) Answer any five questions.
 2) All questions carry equal marks.
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 4) Answer any 2 questions from Q.No.2, 3 & 4 and 2 questions Q.No.5, 6 & 7.
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Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

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 - b) Permanent hardness
 - c) Both a and b
 - d) None of these
- 3) Urbanization usually results in an increase in flood frequency because _____.
 - a) Less water is able to runoff in streams
 - b) Less water is able to infiltrate into the ground, so instead is discharged rapidly into streams
 - c) More water is used by humans and then discharged to streams
 - d) Rainfall is greater in urban areas than in rural areas.
- 4) Vibrations radiate from focus in all direction as _____.
 - a) Longitudinal waves
 - b) Transverse waves
 - c) Seismic waves
 - d) Typanic waves
- 5) Which of the following is a powerful irritant which can aggravate symptoms of people who suffer from respiratory disorders?
 - a) Sulphur dioxide
 - b) Carbon monoxide
 - c) Carbon dioxide
 - d) Oxides of nitrogen
- 6) Tsunamis are generated by?
 - a) Landslides under water
 - b) Earthquakes
 - c) Volcanic Eruptions
 - d) All of the above
- 7) Which of the following activities is covered by Disaster Management before, during or after a disaster?
 - a) Reconstruction and Rehabilitation
 - b) Mitigation
 - c) Emergency response
 - d) All of the above
- 8) Which of the following are the methods of disposal of waste?
 - a) Open dumping methods and compost pit methods
 - b) Sanitation
 - c) Recycling
 - d) Reusing

Seat No.	
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M.Sc. (Semester - IV) (Old) (CBCS) Examination Nov/Dec-2018
Applied Geology
REMOTE SENSING AND GIS

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) All questions carry equal marks.
 2) Question 1 is compulsory.
 3) Answer any two essay questions from 2, 3, 4.
 4) Answer any two short notes questions from 5, 6, 7.
 5) Draw neat and labeled diagrams wherever necessary.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) FCC stands for _____.
 a) Falles Colour Composite b) False Colour Composite
 c) Few Colour Complex d) All of the above
- 2) _____ in form vector data Generate.
 a) Point b) Line
 c) Polygon d) All of the above
- 3) Which of the following satellite series concerned India?
 a) Land sat b) Spot
 c) IRS d) JRS
- 4) G.P.S. provides data of _____.
 a) Latitude b) Longitude
 c) Height d) All of the above
- 5) Remote sensing system which use the naturally available energy are called as _____.
 a) Passive sensor b) Active sensors
 c) Both a & b d) None of the above
- 6) Ratio between map distance and ground distance _____.
 a) Map scale b) Projection
 c) Resample d) Datum
- 7) The word RADAR is an acronym for _____.
 a) Radio Detection and Rays b) Reflection Detection and Range
 c) Radio Device and Range d) Radio Detection and Ranging
- 8) DIP is known as _____.
 a) Digital Image Process b) Dot Image Process
 c) Digital Image Product d) All of the above
- 9) Altitude of geostationary satellite is _____.
 a) 20000 Km b) 36000 Km
 c) 900 Km d) 700 Km
- 10) DBMS stands for _____.
 a) Data building management system
 b) Distribution building management system
 c) Database management system
 d) Distribution building manipulation system

Seat No.	
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M.Sc. (Semester - IV) (Old) (CBCS) Examination Nov/Dec-2018
Applied Geology
RESEARCH METHODOLOGY

Time: 2½ Hours

Max. Marks: 70

- Instructions:** 1) Answer any five questions.
 2) Question No. 1 is compulsory.
 3) Answer any two questions from Q.No.2, 3 & 4
 4) Answer any two questions Q.No.5, 6 & 7.
 5) Draw neat and labeled diagrams wherever necessary.
 6) All questions carry equal marks.

Q.1 Rewrite the sentences by choosing correct answer from given alternatives: 14

- 1) The bibliography of a research report
 - a) Lists all the books published on the topic
 - b) Includes summaries of reference listed in it
 - c) Lends credibility to the report and serves as a guide for further research
 - d) Is always written in the format prescribed by the American Psychological Association
- 2) Identify the pair that appear in the reverse chronological order of development.

a) Mainframe and Desktop	b) Tablet and laptop
c) Desktop and laptop	d) Laptop and tablet
- 3) International Standard Serial Number means _____.

a) ISBN	b) ISSN
c) p ISSN	d) e ISSN
- 4) High level programming language can be converted to machine language using which of the following:-

a) Oracle	b) Compiler
c) Mat lab	d) Assembler
- 5) What is a research design?
 - a) A way of conducting research that is not grounded in theory
 - b) The choice between using qualitative and quantitative methods
 - c) The study in which you present research findings
 - d) A framework for every stage of collection and analyze data
- 6) Which one of the following is a research tool

a) Graph	b) Illustration
c) Questionnaire	d) Diagram
- 7) Which of the following software's is used to process and analyse quantitative data

a) Quark Express	b) SPSS
c) Quant Chrome	d) SSQN
- 8) Use of ICT in research are _____.

a) e-Book	b) e-Reviews
c) e-Submission	d) All of the above

