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MID-SEMESTER EXAMINATION
First Semester, 2018 – 2019
Environmental Science
ESC 01

Full marks: 30   **Time: 2 hours**

Answer all the questions

1. What are 'criteria pollutants'? Describe the sources of criteria pollutants and their effects. (5)

2. Describe the vertical structure of the atmosphere with a suitable sketch. (5)

3(a) State the causes of formation of acid rain. (3)
 (b) How atmosphere is classified according to composition? (2)

4. What is 'symbiosis'? Explain different types of symbiotic relationships with examples. (5)

5. Define 'ecosystem'. What is "Folsom bottle" experiment? (2+3=5)

6. Briefly discuss the basic issues to be emphasized in the study of environment. (5)

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MID-SEMESTER EXAMINATION
B.Tech. Third Semester, 2018 – 2019
Geology for Civil Engineers
ESC 331

Full marks: 30   **Time: 2 hours**

Answer all the questions

1. a) What are the different physical properties of magma?
   b) How the density of the magma can be measured at normal temperature?
   c) Define the rock dolerite using Hatch, Well and Well classification scheme.
   d) Briefly discuss inequigranular texture in igneous rock.   (1+4+3+4)

2. a) What is primary porosity of sedimentary rock?
   b) What are the controlling factors of porosity?
   c) Discuss Graded Bedding with suitable figure.
   d) Discuss the triangular classification of sedimentary rock with terrigenous, orthochemical and allochemical constituents at the vertices.   (1+2+2+3)

3. a) What is the difference between colour and streak of minerals? Why streak is considered more important diagnostic property of a mineral than its colour?
   b) Define 'hardness' of a mineral. State Mohs scale of hardness.   (1+1+2)

4.   Explain the following structures with suitable sketches: (i) Non-plunging fold (ii) Dip fault and (iii) Columnar joints.   (2+2+2)

MID-SEMESTER EXAMINATION
B.Tech. Third Semester, 2018 – 2019
Economic Geology
ESC 332

Full marks:30   **Time: 2 hours**
Answer all the questions

1(a)   Define 'form' of a crystal. Describe the axes of symmetry found in crystals.   (4)

 (b)   A face in an Orthorhombic crystal intersects the macro axis at twice the unit length and vertical axis at unit length but runs parallel to the brachy axis. Determine the Miller's indices of the face.   (2)

2(a)   What is 'Becke test'? How Becke test is used to determine the R.I. of a mineral by 'liquid immersion method'?   (4)

 (b)   What is 'cleavage' of a mineral? How cleavage is related to the internal atomic structure of the mineral? Name two minerals with cleavage.   (4)

3.   State the classification of silicate minerals in a tabular form. Explain inosilicate structure with suitable sketches.   (6)

4(a)   Viscosity affects the form of igneous rocks – discuss with example.   (3)

 (b)   Define the rock Rhyolite using Hatch, Well and Well classification scheme.   (2)

 (c)   What is undercooling? How it effects growth of a crystal?   (3)

 (d)   Discuss factors controlling shape of crystals.   (2)