

SEAT No. \_\_\_\_\_

No. of Printed Pages : 02

[83]

**SARDAR PATEL UNIVERSITY**  
**M.Sc. (EST) (First Semester) Examination**  
**Monday, 25<sup>th</sup>, March 2019**  
**10.00 a.m. to 1:00 p.m.**

**PS01EEST21: Environmental Chemistry & Geology**

**Max. Marks: 70**

**Q.1. Multiple Choice Questions (Choose Correct Answer)**

**[1X8]**

- 1.) Choose odd one out.  
a) Marble b) Breccia c) Conglomerate d) Dolostone
- 2.) When a river empties into a larger body of water, the formation is called?  
a) Alluvial fan b) Delta c) Levees d) Meanders
- 3.) .....are formed by the dissolution of limestone in ground water.  
a) Caves b) Sinkholes c) Geysers d) Springs
- 4.) Oceanic crust is made up of .....  
a) Basalt b) Mica c) Sandstone d) Marble
- 5.) The size of gravels is always more than.....  
a) 0.002 cm b) 0.02 cm c) 0.2 cm d) 2 cm
- 6.) Hydrogen ions are essential for ..... gradient to drive ETC.  
a) Proton b) neutron c) electron d) boson
- 7.) Which of the following is not one of the twelve principles of green chemistry.  
a) Using high temperatures to speed up reactions b) Minimizing toxic reagents used in a synthesis c) Maximization of atom economy d) Minimizing the use of solvents
- 8.) What is meant by optimum temperature of a reaction?  
a) The temperature that results in the maximum possible yield b) The temperature that result in the minimum amount of impurity c) The temperature that results in an acceptable high level of yield and an acceptably low level of impurities d) none of the above

**Q.2. Write a Short Note on followings (Any Seven).**

**[14]**

1. Atom economy & E-factor
2. Factors affecting soil productivity
3. Stream longitudinal profile
4. Crust and Mantle
5. Lacoliths and Bacolith
6. Flowchart of soil types
7. Major components of soil with suitable examples
8. Biological weathering process
9. Composition of intrusive and extrusive rocks

**Q.3. A) What is Diagenesis? Explain different types of the sedimentary rocks with suitable examples.**

**[06]**

(P.T.O.)

(1)

B) What is weathering? Explain about the physical weathering process. [06]

OR

B) Write a note on types of metamorphisms. Explain metamorphic rocks with suitable examples. [06]

Q.4. A) Explain sorting process by graphical representation. Discuss three different modes of sediment transportation by running water. [06]

B) How glaciers are eroded? Explain the different Erosional features of glaciers. [06]

OR

B) Narrate the different types of Erosional work by Wind. [06]

Q.5.A) Discuss the mobility of nutrients in plants and soil. Add a note on signs of nutrient deficiency in plants. [06]

B) Enumerate in detail: Soil horizons, Soil textures, Soil-types based on water content. [06]

OR

B) Classify the soil-plant nutrients. Explain significance of C, H, O & K in soil. [06]

Q.6. A) What is green Chemistry? Briefly explain twelve principles of green chemistry. [06]

B) Discuss the synthesis of indigo dye using green chemistry. What is the traditional method of synthesis? Is there any disadvantages in the traditional method? [06]

OR

B) State the advantages and disadvantages of biomass as an alternative raw materials for green chemical synthesis. [06]

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