



**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING**

**SUMMER TERM / MAKE UP END TERM EXAMINATION**

**Semester:** Summer Term 2019

**Date:** 25 July 2019

**Course Code:** CIV 203

**Time:** 2 Hours

**Course Name:** Engineering Geology

**Max Marks:** 80

**Program & Sem:** B.Tech (Civil) & III Sem (2017 Batch)

**Weightage:** 40%

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**Instruction:**

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.

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**Part A**

Answer **all** the Questions. **Each** question carries **one** mark.

(20Qx1M=20)

1.

A. What is the volume of voids in a rock mass expressed in percentage of total volume of rock called?

- a) Porosity
- b) Voids ratio
- c) Permeability
- d) Specific Yield

B. Permeability is \_\_\_\_\_?

- a) The ability of a solid to allow fluids to pass through
- b) The process by which plants release water vapor to the atmosphere
- c) The amount of water vapor in the air relative to the maximum amount of water vapor the air can hold.
- d) The percentage of pore space in the rock

C. Which of the following reservoirs contains the most water?

- a) Atmosphere
- b) Biosphere
- c) Groundwater
- d) Lakes and rivers

D. The boundary between the saturated zone and the unsaturated zone is called the\_\_\_\_\_

- a) Water table
- b) Aquifer

- c) Aquiclude
- d) Porosity

E. What are the undulations or bends developed in rocks called?

- a) Faults
- b) Folds
- c) Joints
- d) Unconformity

F. The minimum number of limbs for a fold are;

- a) 1
- b) 2
- c) 3
- d) 4

G. What are the fractures along which there has been relative movement of blocks called?

- a) Folds
- b) Intrusion
- c) Faults
- d) Joints

H. A fault has how many walls?

- a) 1
- b) 2
- c) 3
- d) 4

I. The sides of a fold are called;

- a) Limbs
- b) Crest
- c) Trough
- d) Axial plane

J. An example of Primary structure \_\_\_\_\_

- a) Faults
- b) Bedding planes in sedimentary rocks
- c) Folds
- d) Joints

K. The agents of chemical weathering are;

- a) Water
- b) Free oxygen
- c) Carbon dioxide
- d) All of the above

L. Weathering results into;

- a) Increase in porosity
- b) Decrease in porosity
- c) Porosity remains constant
- d) Increase and then decreases

M. Remote sensing is the study of \_\_\_\_\_

- a) Land
- b) Water
- c) Rocks and minerals
- d) All of the above

N. Which of the following is NOT a remote sensing satellite;

- a) IRS
- b) Landsat
- c) Quikbird
- d) Insat

O. GIS stands for;

- a) Geographic Information System
- b) Generic Information System
- c) Geological Information System
- d) Geographic Information Sharing

P. Global Positioning System (GPS) is a;

- a) Satellite Word station
- b) Satellite System
- c) Satellite Signal
- d) Satellite Solution

Q. Global Positioning Services (GPS) uses 24 satellites in \_\_\_\_\_

- a) 9 Orbits
- b) 8 Orbits
- c) 7 Orbits
- d) 6 Orbits

R. How long does it take a GPS satellite to orbit the earth?

- a) 1 hour
- b) 6 hour
- c) 12 hour
- d) 24 hour

S. How many GPS satellites are needed to provide an accurate stand-alone fix?

- a) 1
- b) 2
- c) 3
- d) 4

T. Master station is included in \_\_\_\_\_

- a) Space segment
- b) Control segment
- c) User Segment
- d) All of the above

## Part B

Answer **all** the Questions. **Each** question carries **ten** marks.

(4Qx10M=40)

2. Explain weathering? Write three important types of weathering? Describe in short each type and what are the engineering importance of weathering?
3. Explain the common types of faults and write any four important points on effects / Engineering importance of faults?
4. With a neat sketch explain the different parts of a dam?
5. a What are the seven remote sensing components and explain with a neat diagram?  
b Describe all the three types of GPS segments with a neat figure?

## Part C

Answer **both** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

6. Describe any three types of dams with a neat diagram and write any four effects / engineering importance of folds?
7. Write any five applications of Remote Sensing in Civil Engineering field and five applications of GIS in Civil Engineering field?