

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCES
M.Sc., Summer 2022-23 Examination

Semester: 4
Subject Code: 11211253
Subject Name: Engineering Geology

Date: 24/03/2023
Time: 2:00pm to 4:30pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Explain particle size distribution of soil.
 (b) Explain Mechanical weathering.
- Q.1. B) Answer the following questions (Any two)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
 1. List out the types of tunnels.
 2. List out the types of bridges.
 (b) Short note on compressive strength of rocks. (04)
 (c) Short note on gravel and sand as a construction material. (04)
- Q.2. A) Answer the following questions.**
 (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)
 1. Cow Green Dam in Teesdale, northeast England is an example of _____ type of dam.
 2. Clay deposits are composed principally of fine _____ and _____ minerals.
 (b) Short note on Chemical and Biological weathering. (04)
- Q.2. B) Answer the following questions (Any two)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
 1. Define firm ground.
 2. Define raveling ground.
 3. Define bridge.
 (b) Short note on leakage from Reservoirs. (03)
 (c) Short note on coarse soils in detail. (03)
- Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Explain investigation of reservoir sites.
 (b) Short note on water in tunnels.
- Q.3. B) Answer the following questions (Any two)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
 1. Loess deposits generally consist of _____ % particles of silt size.
 2. A _____ dam is a rigid monolithic structure that is usually straight in plan.
 (b) Short note on Excavation of Tunnel. (04)
 (c) Short note on material characteristics of soil. (04)
- Q.4. A) Answer the following questions.**
 (a) Short note/ Brief note (2x2)/ Fill in the blanks. (Each of 02 marks) (04)
 1. _____ types of ground moves like a viscous liquid.
 2. Specific gravity of silt is _____.
 (b) Explain gases in tunnels. (04)
- Q.4. B) Answer the following questions (Any two)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
 1. Specific gravity of sand is _____.
 (A) 3.45 – 4.3 (B) 1.45 – 2.3 (C) 2.6 – 2.7 (D) 2.64 – 2.66
 2. Void ratio of silt is _____.
 (A) 0.10 – 0.20 (B) 0.35 – 0.85 (C) 0.15 – 0.25 (D) 0.10 – 0.30
 3. Porosity (%) of gravel is _____.
 (A) 20 - 50 (B) 10 - 15 (C) 60 - 70 (D) 55 - 60
 (b) Short note on importance of geology in civil engineering. (03)
 (c) Short note on Dispersive Soils. (03)