



SE CIVIL SEM - III CBSCS (Choice Based)

Engineering Geology

(REVISED COURSE)

(3 Hours)

13 DEC 2017

[Total Marks:80]

- N.B. (1) Question No 1 is compulsory.
 (2) Attempt any four questions out of remaining six.
 (3) Draw sketches wherever necessary.
 (4) Figures to the right indicate full marks.

1. (a) With the help of the following properties identify the minerals. 05
 - (i) Fibrous form, Lustre – Silky, Splintery fracture.
 - (ii) Massive form, Colour – lead grey, Streak – lead grey, Lustre – Metallic, Sp.Gravity 7.4 -7.6, Chemical composition – PbS.
 - (iii) Lamellar form, Colour – Black, Lustre – Pearly, Cleavage – Basal Pinacoid.
 - (iv) Banded form, mostly found with haematite, Lustre – Waxy, Cleavage – Absent, Hardness – 7.
 - (v) Granular pisolitic form, Crystal System – Amorphous, Lustre – Dull, Fracture – Uneven, Chemical Composition $Al_2O_3 \cdot 2H_2O$
- (b) (i) What are the various types of metamorphism? 05
 (ii) Name the parent rock of marble and quartzite.
 (iii) What do you mean by acidic and basic rock?
 (iv) What do you mean by exfoliation?
 (v) State the relationship between dip and strike?
- (c) Write the names and draw rough sketch of each of the following. 10
 - (i) Core between normal and inverted limbs with horizontal axis.
 - (ii) Group of synclines and anticlines with parallel axes.
 - (iii) Isolated water table held by small extension of impervious rock within previous tract.
 - (iv) The structure with bands of platy minerals alternate with granular minerals.
 - (v) Two normal faults forming wedge shaped block mountain.
2. (a) Explain with suitable diagrams different types of texture found in igneous rocks. 10
 (b) Describe two land forms each created by erosive action of wind and glaciers. 10
3. (a) State the terminologies of fault. Explain various types of faults with suitable diagrams. 10
 (b) State the engineering considerations of weathering. What are the different types of weathering? 06
 (c) Explain concentric fold and similar fold. 04
4. Explain the following in brief. (any four) 20
 - (a) Various products erupted during volcanic activities.
 - (b) Water bearing qualities of rock.
 - (c) Properties of good building stones.
 - (d) Various types of plate boundaries.
 - (e) Use of seismic waves in understanding the interior of the Earth.

Turn Over

5. (a) In a limestone quarry, a bed has 75m true thickness and it shows a vertical thickness of 98m. All the beds are dipping southwards. Determine its amount of inclination and width of outcrop on a level ground. 06
- (b) Write the lithology and classification of Deccan trap. 06
- (c) Write short notes on the following 08
- (i) Solifluction and soil creep. (ii) Non conformity and disconformity
- (iii) Fold axis and axial plane of fold. (iv) Lacolith and batholith.
6. (a) Write different geological considerations in the selection of dam site. 10
- (b) Explain the importance of core recovery and RQD 04
- Calculate the same from the given data and mention your opinion. 06
- Run is 3 mtrs.

No of samples	Length of sample (in cm)	Nature of joints
1	12	N
2	04	M
3	03	N
4	17	M
5	03	M
6	07	M
7	29	N
8	05	N
9	08	N
10	06	N
11	42	N
12	35	N
13	05	N
14	03	M
15	04	N
