

KADI SARVA VISHWAVIDHYALAYA

B.E. (CIVIL ENGINEERING) Semester III (APRIL- 2015)

Subject Code: CV304

Subject Name: Engineering geology

Date: 16/04/2015

Time: 10:30am to 1:30pm

Total Marks: 70

Instructions:

1. Answer each section in separate Answer sheet
2. Use of Scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate clearly, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

Section - I

- Q-1 (A) Explain term Engineering Geology. Enlist various branches of [05] geology and add a note on its importance in Civil Engineering.
(B) What are geological agents? Describe in detail the process of [05] Mechanical weathering.
(C) What is seismology? Describe with help of neat diagram the [05] concept of Elastic Rebound Theory.

OR

- (C) What is an earthquake? How it is caused? Discuss briefly effects [05] of earthquakes.

- Q-2 (A) Define crystal. Explain the three types of symmetries commonly [05] present in crystal.
(B) State objects of geological investigations for civil engineering [05] projects.

OR

- Q-2 (A) Write short note on erosion and denudation. [05]
(B) Define: (i) desert pavement (ii) sand dunes (iii) abrasion [05]
(iv) joints (v) oxbow lake

- Q-3 (A) Explain measures against landslides and slope failure [05]
(B) What is meant by geographical positioning system [05]

OR

- Q-3 (A) Describe surface and subsurface geological investigations. [05]
(B) Critically discuss various geological criteria to be considered in [05] selection of a dam site and reservoir

Section-II

- Q-4 (A) Write short notes on (i) columnar joints (ii) syncline and anticline [05]
 (B) Write an account on groundwater hazards observed in the [05]
 construction of civil engineering projects.
 (C) Give the classification of faults based on apparent movement. [05]
- OR**
- (C) Explain terminology of fold with neat sketches. [05]
- Q-5 (A) What are structural discontinuities? Discuss the impact of joints in [05]
 Civil Engineering projects and in ground water exploration.
 (B) Narrate the properties of a good building stone. [05]
- OR**
- Q-5 (A) Describe the tabular classification and important structures of [05]
 sedimentary rocks.
 (B) How rocks are classified? Write an account of texture of igneous [05]
 rock.
- Q-6 (A) What are faults? Explain terminology of faults with neat sketches. [05]
 (B) Write short notes on: (i) Axial plane of fold.(ii) Recumbent fold. [05]
- OR**
- Q-6 (A) What is meant by hydrological cycle? Discuss the various [05]
 component of it?
 (B) Explain in detail Artificial recharging of subsurface water [05]

*****All the Best*****

KADI SARVA VISHWAVIDHYALAYA

B.E. (CIVIL ENGINEERING) Semester III (November- 2015)

Subject Code: CV304

Subject Name: Engineering Geology

Date: 05/12/2015

Time: 10:30am to 1:30pm

Total Marks: 70

Instructions:

1. Answer each section in separate Answer sheet
2. Use of Scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate clearly, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

Section - I

- Q-1 (A) Define geology. Enlist branches of geology. Discuss in brief the scope of geology. [05]
(B) Write short notes on Frost action and thermal action - weathering on rock. [05]
(C) Define earthquake. Describe P-waves, S-waves and Intensity of an earthquake. [05]
- OR**
- (C) Write detail note on Earthquake Prediction. Define Magnitude and Intensity of an earthquake. [05]
- Q-2 (A) Answer the following: [05]
1. crystallography is directly related to
 (a) physical geology (b) mineralogy
 (c) Petrology (d) structural geology.

2. calcite is a mineral of
 (a) sodium carbonate (b) calcium carbonate
 (c) potassium carbonate (d) magnesium carbonate

3. Quartz minerals generally have
 (a) silky luster (b) pearly luster
 (c) vitreous luster (d) adamantine luster

4. High specific gravity of non-metallic mineral is
 (a) calcite (b) quartz
 (c) barite (d) galena

5. Hardness of biotite mineral is
 (a) seven (b) six
 (c) four (d) Eight
- (B) Define crystal. Enlist elements of a crystal. Write note on any one crystallographic system. [05]

OR

- Q-2 (A) Enlist geological natural agencies and geological work. Describe erosion work of river water with the features developed in rock mass. [05]
(B) Write short note on Geological properties of building stones. [05]

- Q-3 (A) Elaborate how can landslides be prevented? [05]
(B) Enlist and explain briefly the geological criteria for site selection of dam. [05]

OR

- Q-3 (A) What is a dam? List their types. Critically explain the geological problems encountered during the construction of dams. [05]
(B) Narrate the merits and demerits of a tunnel alignment passing through the folded sequence of rocks. [05]

Section-II

- Q-4 (A) Drawing neat sketches, write brief notes on: (i) Horst - Garben and (ii) Stratification - Lamination. [05]
(B) What is an aquifer? How are they formed and classified? [05]
(C) Explain fold and its causative factors. Write engineering importance of fold. [05]

OR

- (C) Drawing a diagram, describe the various parts of a typical fold. [05]

- Q-5 (A) Write detail note on rock cycle. [05]
(B) Differentiate normal and reverse fault. Write engineering importance of fault. [05]

OR

- Q-5 (A) Explain in detail the classification of sedimentary rocks? Describe sandstones. [05]
(B) Based on apparent movement give classification of faults. [05]

- Q-6 (A) Define mineral. What are the standard methods for identification of minerals? Add a note on Moh's scale of hardness. [05]
(B) What are structural discontinuities? How joints are classified? Discuss the impact of joints in Civil Engineering projects. [05]

OR

- Q-6 (A) What is meant by salt water intrusion? How will costal aquifers be intruded with salt water? [05]
(B) Write short notes on: (i) Porosity and Permeability of rocks and (ii) Sources of Groundwater. [05]

KADI SARVA VISHWAVIDHYALAYA

B.E. Semester III

Subject Code: CV304

Subject Name: Engineering Geology

Date: 28/11/2013

Time: 10:00 am to 1:00pm

Total marks: 70

Instructions:

1. Answer each section in separate Answer Sheet
2. Use of Scientific calculator is permitted.
3. All questions are Compulsory.
4. Indicate Clearly, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

Section - I

Q-1

- (A) Define Engineering Geology. Explain role of geology in Civil engineering practices. 05
(B) Enlist geology agents and describe the mechanical weathering of rocks. 05
(C) What is an Earthquake? Describe the types of earthquake waves. 05

OR

- (C) What is the seismology? Describe with the help of neat diagram the concept of Elastic rebound theory. 05

Q-2

- (A) Define Crystal? Explain the three types of symmetries commonly present in crystals. 05
(B) Enlist branches of Geology. Discuss in brief the scope of geology. 05

OR

- (A) Describe the rock cycle in detail. 05
(B) Write a detail notes on river meandering and sand dunes. 05

Q-3

- (A) Give the classification of folds based on position of axial plane. 05
(B) What are joints? Give their types and engineering geological significance. 05

OR

- (A) Discuss the Zonal distribution of groundwater. 05
(B) Define mineral. Describe the streak and cleavage properties of minerals. 05

P.T.O.

Section -II**Q-4**

- (A) What is Dam? Briefly discuss the role of geologist in site selection of Dams. 05
 (B) What is meant by remote sensing and geographical positioning system? 05
 (C) Explain the different methods for Artificial Recharging method. 05

OR

- (C) Write a short note on porosity and permeability of rocks. 05

Q-5

- (A) Narrate the merits and demerits of a tunnel alignment passing through the folded sequence of rocks. 05
 (B) State the objects of geological investigation for civil engineering projects. 05

OR

- (A) Write a short note on preventive measures for landslides. 05
 (B) Write a short note on Dip and Strike. 05

Q-6

- (A) How are sedimentary rocks formed? What are clastic and non-clastic rocks? 05
 (B) Write detailed notes on factors and types of metamorphism. 05

OR

- (A) Explain geological properties of building stones and describe Granite as building stones. 05
 (B) Write Short note on horst-garben with neat sketch. 05

-----All the Best-----

OR

KADI SARVA VISHWAVIDHYALAYA

B.E. Semester III (CIVIL ENGINEERING)

Subject Code: CV304

Subject Name: Engineering geology

Date: 28/04/2014

Time: 10:30am to 1:30pm

Total Marks: 70

Instructions:

1. Answer each section in separate Answer sheet
2. Use of Scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate clearly, the options you attempt along with its respective question number.
5. Use the last page of main supplementary of rough work.

Section – I

- Q-1 (A) Describe the applications of Geology in Civil Engineering [05]
 (B) What is meant by weathering? Describe in details the process of [05]
 chemical weathering.
 (C) Define an earthquake. Can earthquakes be predicted? [05]

OR

- (C) Describe the types of earthquake waves. [05]

- Q-2 (A) Define a mineral. Describe the Hardness and Streak properties of [05]
 minerals with examples.
 (B) Write detail notes on river meandering and sand dunes [05]

OR

- Q-2 (A) Define: (i) permeability (ii) crystal (iii) porosity (iv) joints [05]
 (v) folds
 (B) Enlist various branches of geology. Explain in detail any one of it. [05]

- Q-3 (A) Write detailed notes on crystallographic axes and elements of [05]
 symmetry.
 (B) What are sedimentary rocks? Narrate how these are formed. [05]

OR

- Q-3 (A) What are rocks? Discuss the importance of rocks in Civil [05]
 Engineering.
 (B) Discuss the subsurface distribution of groundwater. [05]

P.T.O.

Section-II

- Q-4 (A) Write note on Anticlines and synclines [05]
(B) Write short note Tunnel through folded and faulted rocks. [05]
(C) Write brief notes: (i) Frost Action and (ii) Mohs' Scale of Hardness [05]
- OR**
- (C) What are faults? Explain terminology of faults with neat sketches. [05]
- Q-5 (A) What does landslide mean? State various factors affecting the landslides. [05]
(B) State the application of remote sensing in Geology. [05]
- OR**
- Q-5 (A) Factors and types of metamorphism [05]
(B) Drawing neat sketches, write brief notes on: (i) Horst - Garben and [05]
(ii) Stratification - Lamination.
- Q-6 (A) Describe the Rock Cycle in detail. [05]
(B) What are structural discontinuities? How joints are classified? [05]
- OR**
- Q-6 (A) Classify the following rocks as per their origin: [05]
(i) Gabbro (ii) Slate (iii) Granite (iv) Marble (v) Limestone
(B) Write short notes on: (i) Limbs and Axial plane of fold. [05]

*****All the Best*****

KADI SARVA VISHWAVIDYALAYA

B.E. CIVIL SEMESTER-III EXAMINATION NOVEMBER-2014

Subject Code : CV 304

Subject Name: Engineering Geology

Date : 17 / 11 /2014

TIME : 10:30am To 1:30pm

Total marks: 70

Instruction:

1. Answer each section in separate Answer Sheet.
2. Use of scientific calculator is permitted.
3. All questions are compulsory.
4. Indicate clearly the options you attempted along with its respective question number
5. Use the last page of supplementary for rough work.

SECTION-I

- Q.1 (A) What is geology? Explain in brief main and allied branches of geology. [5]
(B) List the agents of weathering and explain mechanical weathering of rocks in detail. [5]
(C) Write a short note on impacts of earthquake. [5]
- OR
- (C) What is an earthquake? Describe in detail types of earthquake waves. [5]

- Q.2 (A) Elaborate the role of geologist in civil engineering projects. [5]
(B) State the objects of geological investigations for civil engineering projects. [5]

OR

- Q.2 (A) Explain scope of engineering geology in civil engineering. [5]
(B) What is river erosion? Explain various methods of river erosion. [5]

- Q.3 (A) What are landslides? How they are caused? [5]
(B) What is dam? Enlist the types of dams. [5]

OR

- Q.3 (A) What are preventive measures of landslides? [5]
(B) Critical discuss various geological criteria to be considered in selection of a dam site and reservoir. [5]

SECTION-II

- Q.4 (A) Describe the zonal distribution of ground water. [5]
(B) Write an account on groundwater hazards observed in the construction of civil engineering projects. [5]
(C) Define a mineral? Describe the Streak and Hardness properties of minerals. [5]
- OR
- (C) Define: Porosity, Permeability, aquifer, aquifuse, aquiclude. [5]

- Q.5 (A) Write short note with neat sketches on Horst –Garben and Stratification –Lamination. [5]
(B) What is a crystal? Describe the different parts of a crystal and their relationship. [5]
- OR**
- Q.5 (A) How joints are classified? Discuss the impact of joints in Civil Engineering projects [5] and in ground water exploration.
(B) What are faults? Explain terminology of faults with neat sketches [5]
- Q.6 (A) Narrate the properties of a good building stone. [5]
(B) Classify the following rocks as per their origin:
(i) Slate (ii) Marble (iii) Limestone (iv) Shale (v) Schist [5]
- OR**
- Q.6 (A) How are rocks classified? Write an account of texture of igneous rock. [5]
(B) What are the standard methods for identification of minerals? [5]

-----ALL THE BEST-----

SECTION-II

1. (a) According to colored soils how much land of India is covered by red soil? [5]

(b) According to government notification which area of India is prone to landslides? [5]

2. (a) Define joint and jointing. [5]

(b) Define fault and faulting. [5]

3. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

4. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

5. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

6. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

7. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

8. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

9. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

10. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

11. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

12. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

13. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

14. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

15. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

16. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

17. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

18. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

19. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

20. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

21. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

22. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

23. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

24. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

25. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

26. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

27. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

28. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

29. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

30. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

31. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

32. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

33. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

34. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

35. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

36. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

37. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

38. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

39. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

40. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

41. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

42. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

43. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

44. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

45. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

46. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

47. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

48. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

49. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

50. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

51. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

52. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

53. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

54. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

55. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

56. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

57. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

58. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

59. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

60. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

61. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

62. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

63. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

64. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

65. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

66. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

67. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

68. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

69. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

70. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

71. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

72. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]

73. (a) Define Igneous rocks. [5]

(b) Define Intrusive and Extrusive rocks. [5]

74. (a) Define sedimentary rocks. [5]

(b) Define Foliation and bedding. [5]

75. (a) Define metamorphic rocks. [5]

(b) Define foliation and lineation. [5]