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[5558]-106

F.E. (All Branches) EXAMINATION, 2019
BASIC CIVIL AND ENVIRONMENTAL ENGINEERING
(2015 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Answer Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6 and Q. 7 or Q. 8.

(ii) Neat sketches must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Assume suitable data, if necessary.

(v) Use of electronic pocket calculator is allowed in the examination.

(vi) Use of cell phone is prohibited in the examination hall.

Q.1 a) Explain with a sketch, principle of surveying, "To work from whole to parts". **(04)**

b) State any four necessities of valuation of a property. **(04)**

c) State any four functions of foundation. **(04)**

OR

Q.2 a) State any two applications of each: Construction Engineering; Quantity Surveying **(04)**

b) Briefly explain four tests for ascertaining quality of cement on site. **(04)**

c) What is differential settlement explain with a sketch? **(04)**

Q.3 a) Explain the term EIA? Explain Overlays method of EIA with a sketch. **(05)**

b) Following readings were taken on 4m levelling staff at 20 m interval. The readings were: 2.865, 3.345, 2.935, 1.950, 0.885, 2.790, 2.640, 1.540, 0.935, 0.850 and 0.190. The instrument was shifted after 5th and 8th reading. The work was started from a point whose Reduced Level was 250.000 m. Enter the readings for H.I. method and determine Reduced Levels of all the other stations. Also find the gradient of the line joining first and last staff stations. Apply usual arithmetic check. **(07)**

P.T.O.

OR

Q.4 a) What is Contour. Give any three applications of contour lines and three characteristics of contour lines with a sketch. (07)

b) Explain E-waste management briefly and state its need with respect to any three points. (05)

Q.5 a) Explain the principles of building planning with a sketch: 'Aspect' and 'Roominess' (08)

b) What is Air plane rule? Explain with a sketch. (05)

OR

Q.6 a) A owner proposed G + 1 construction on a plot with length equals to 1.5 times width of the plot. If built up area on Ground floor is 912 Sq. m and on First floor is 438 Sq. m. with permissible FSI = 1. Determine the size of the plot. (05)

b) Explain following with a sketch: "Privacy" and "Orientation" (08)

Q. 7 a) What is Air Pollution? Give any four sources of Air Pollution. (05)

b) Explain with suitable examples conventional and non-conventional energy sources with respect to any four points. (04)

c) Write short note on sources and preventive measure for Land pollution, any two points. (04)

OR

Q. 8 a) State any three advantages and dis-advantages of conventional sources of energy. (06)

b) What is Acid Rain? Give the chemical reactions takes places to form acid and also give three adverse effects of Acid rain. (07)