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University Examinations 2013/2014

SECOND YEAR, SECOND SEMESTER EXAMINATION FOR DIPLOMA IN AGRICULTURE
EDUCATION AND EXTENSION

NAR 0241 – SOIL AND WATER CONSERVATION

DATE: DECEMBER 2013

TIME: 1 $\frac{1}{2}$ HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE – 30 MARKS

- (a) Distinguish between splash erosion and sheet erosion. (4Marks)
- (b) Explain the four factors that influence soil erosion. (8Marks)
- (c) What is the importance of cover cropping with a green manure crop? (5Marks)
- (d) List five benefits of Agroforestry in Cropland. (5Marks)
- (e) Describe five factors considered in the selection and design of structures for soil and water conservation. (5Marks)
- (f) Explain the two principles that are based on in gully control. (3Marks)

QUESTION TWO – 15 MARKS

- (a) Good crop management practices can reduce soil erosion by water and wind to tolerable levels and improve fertility. Discuss five ways in which these can be achieved. (10Marks)
- (b) What is the aim of conservation tillage? (5Marks)

QUESTION THREE – 15 MARKS

- (a) What are soil and water conservation structures? (3Marks)
- (b) Write short notes on any four soil and water conservation structures. (12Marks)

QUESTION FOUR – 15 MARKS

- (a) What does the term ‘catchment approach’ mean in the planning and layout of soil and water conservation structures? (3Marks)
- (b) Write short notes on the following principles used in soil conservation planning:
- (i) Planning and layout of conservation structures for small holdings. (6Marks)
 - (ii) Planning and layout of structures for large mechanized farms. (6Marks)

QUESTION FIVE – 15 MARKS

- (a) What is tolerable soil loss? (2Marks)
- (b) Discuss the universal soil loss equation. (10Marks)
- (c) State the application of universal soil loss equation. (3Marks)