

CAT 3

ALP 2201: SOIL PHYSICS

14<sup>TH</sup> NOVEMBER 2016

1 HOUR

TIME: 1 HOUR

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**INSTRUCTIONS**

Answer **ALL** questions

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- Q1. (a) Why is good aeration capacity of soils considered a determinant of agricultural productivity? (10 Marks)
- (b) Describe two mechanisms responsible for gaseous exchange in soils, indicating their differences and similarities if any. (10 Marks)
- Q2. (a) (i) Discuss the process of hydrodynamic dispersion of solutes in soils. (6 Marks)
- (ii) Why is the above process considered to be the most important mechanism of solute transfer? (4 Marks)
- (b) Discuss how fractional volume of the liquid phase and geometric configuration of the soil pores influence the tortuosity factor in solute movement in soils. (10 Marks)
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