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# B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2012 AGRICULTURAL AND IRRIGATION ENGINEERING BRANCH

#### SIXTH SEMESTER

### AI 9351 TRACTOR AND FARM EQUIPMENT

(REGULATIONS 2008)

Time: 3 hr

Max Marks : 100

# **Answer ALL Questions**

## Part – A (10 x 2 = 20 Mark)

- 1. Write any two reasons for engine knocking.
- 2. List the parts of engine piston.
- 3. List the functions of clutch.
- 4. What is sliding mesh gear box?
- 5. What are the types of dusters?
- 6. List ant two equipments for seeding / planting.
- 7. A 3 x 30 cm plough is moving at a speed of 3 km/h. calculate how much time it take to plough 1000 x 1000 m field when the field efficiency is 80 %.
- 8. What are the purposes of ploughing?
- 9. What are the mobile sources of farm power?
- 10. What are the merits of wind power in farm?

#### Part – B (5 x 16 = 80 Mark)

- 11. i) Explain the major components of internal combustion engine with sketch (16).
- 12. a. i) Discuss the working principle of different types of brake system in tractor with sketch (16)

OR

- b. i) Explain the steering mechanism of tractor. (8)
  - ii) Explain the important periodic maintenance of the tractor (8)
- 13. a. i) Discuss the use of power tiller in agricultural operations.(10)
  - ii) Write about clutch in power tiller. (6)

OR

- b. i) Discuss about bull dozer's special features and their merits (16)
- 14. a. i) Explain the operation principle and components of Harvesting equipments, (16) (OR)
  - b. i) Describe the different types of harrows with sketch (16)

- 15. a. i) Explain the working principles of biogas plant. (10)
  - ii) Discuss the scope of farm mechanization. (6)
  - b.i) Describe the periodic maintenance of Tractor. (8)
    - ii) Write the common troubles of Tractor engine and their remedies. (8)