

Code No: RT22355

R13**SET - 1**

II B. Tech II Semester Supplementary Examinations, November - 2018
FARM POWER AND TRACTOR SYSTEMS
(Agricultural Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answer **ALL** the question in **Part-A**
3. Answer any **THREE** Questions from **Part-B**
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PART -A

1. a) Write on types of lubricants with examples? (4M)
- b) Explain the working principle of EC and IC Engine with examples? (3M)
- c) Write about fluid coupling and torque connector? (3M)
- d) Write necessity of clutch and essential features of good clutch? (4M)
- e) Write about differential lock and when it is used? (4M)
- f) Why the Governor is important in tractor? Enumerate. (4M)

PART -B

2. a) Functions of lubrication in IC Engine. (4M)
- b) Write about splash lubrication system. (4M)
- c) Construction details & working principle of Ratchet Pawl mechanism. (8M)
3. a) Requirement of good Braking system? (4M)
- b) Transmission system of the tractor – explain the function of each component with neat diagrams? (12M)
4. a) What is Traction? Explain the Traction improving method with diagrams. (8M)
- b) Write about crawler tractor? Difference between crawler tractor & other tractors. (8M)
5. a) What are the methods adopted for determining Center of Gravity? Explain one of them with required illustrations? (10M)
- b) Discuss about Tractor chassis mechanics and functions of chassis? (6M)
6. a) Enumerate the types of clutch and explain friction and dog clutch with neat diagram (8M)
- b) Describe the need for cooling systems? Enumerate working principle of forced cooling system? (8M)
7. a) Enumerate the types of gear box used in Tractor along with their working principles? (7M)
- b) Write about following (9M)
 - i) Wheel slip
 - ii) Draft control
 - iii) Crawler tractor