# 314302

**12526**

**3 Hours / 70 Marks** Seat No. | | | | | | | | |

*Instructions* – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

**1. Attempt any FIVE of the following:** **10**

a) State the developmental scope of farm mechanization.

b) Write the objective of tillage operations.

c) Define tillage and state its importance.

d) State the main features of a transplanter.

e) Enlist the components of sprayers.

f) Write the main function of a combine harvester-thresher.

g) Write the function of reaper and reaper binder.

**Marks**

**2. Attempt any THREE of the following:** **12**

a) Define farm mechanization and explain its role in agricultural productivity.

b) Enlist the advantages and limitations of farm mechanization in agriculture engineering.

c) Describe the different sources of farm power.

d) Differentiate between normal ploughing and contour ploughing.

**3. Attempt any THREE of the following:** **12**

a) Explain the function of M.B. plough and state its different components.

b) Explain pull draft, side draft and unit draft with respect to share.

c) Explain the differences between broadcasting and drill sowing?

d) Describe the function of a seed drill in sowing.

**4. Attempt any THREE of the following:** **12**

a) Explain the advantages of line sowing over broadcasting.

b) Explain the metering mechanism of potato planter.

c) Explain the function and different type of dusters used in plant protection.

d) Explain the importance of plant protection equipment and describe the general care and maintenance required of sprayers.

e) Explain the working principle and component of piston pump used in spraying applications.

**5. Attempt any TWO of the following:** **12**

a) Describe secondary tillage and how does it differ from primary tillage.

b) Explain the working principle of combine harvester thresher and enlist its components in details.

c) Explain the principle of cutting in harvesting and the role of mower in the process.

**Marks**

**6. Attempt any TWO of the following:** **12**

a) Explain construction and working of Olpad thresher.

b) Explain the role of seed treatment in IKs based sowing methods.

c) Define a nozzle in context of plant protection equipment. Explain components and types of nozzles commonly used in sprayers.

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