Course Title	Farm Mechanization			Course Code	BST 22242		
Year	2	Semester	2	Credits	02	Theory (hr)	15
						Practical (hr)	30
						Independent Learning (hr)	

Aim of the Course:

To provide the knowledge and skills on selection, operation, maintenance and technical and economical evaluation of machinery used in agriculture

Intended Learning Outcomes:

After completion of this course, the learner should be able to:

- Define machine and tools.
- Distinguish between different power sources, i.e. mechanical, hydraulic and pneumatic.
- Explain the working principles of farm tractors and other commonly used agricultural machinery.
- Explain the steps/process of selection, operation and maintenance of agricultural machinery.
- Discuss the process of testing and evaluation of farm machinery.

Course Capsule:

Theory
Machine, implement, mechanism, mechanical power, hydraulic power and pneumatic power; Internal combustion engine, Engine terminology, Engine cycles; Basic engine components; Fuel system and air cleaners; Cooling and lubrication systems; Electrical and ignition system; Power transmission system, hydraulic system; Land preparation implements; Seed and plant establishment equipment; Water pumps; Inter cultivation, Sprayers and dusters, Harvesting machinery, Post-harvest and processing machinery; Safe use of farm machinery and ergonomics

Practical
Identification of basic engine components; Identification of valve mechanism; Identification of external components of two wheel tractor; Identification of external components of four wheel tractor; Operation and maintenance of diesel fuel system; Operation and maintenance of petrol fuel system ; Operation and maintenance of cooling and lubrication system; Operation and maintenance of hydraulic system; Operation and maintenance of power transmission system; Operation and maintenance of electrical and ignition system; Handling of land preparation implements; Water pump calculations, selection, installation and operation of water pumps; Spray calibration; Operation, evaluation of harvesting machinery; Testing and evaluation of agricultural tractors (Performance test, endurance test, fuel consumption test, safety and ergonomics)

Assessment:

Continuous assessment: 50%
End semester assessment: 50%