MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Horticulture

Semester	: VI (New)	Term	: Second	Academic Year	: 2023-24
Course No.	: H/ENGG 362	Title	: Farm Machinery and Power Engineering		
Credits	: 2 (1+1)				
Day & Date	: Tuesday, 30.04.2024	Time	: 14:00 to 16:00 hrs.	Total Marks	40

Note :
1. Solve ANY EIGHT questions from SECTION 'A'.
2. All questions from SECTION 'B' are compulsory.
3. All questions carry equal marks.
4. Draw neat diagram wherever necessary.

SECTION 'A'

Q.1 State the differences between Two stroke and Four stroke engines.

Q.2 Explain in short the different factors to be considered for selection of tractor.

Q.3 Calculate the BHP of a 2 cylinder 4 stroke cycle IC engine 15x16 cm. The mean effective pressure is 15 kg/cm^2 and the speed of the crankshaft is 1200 rpm. The mechanical efficiency is 75 %.

Q.4 a) Enlist different sources of farm power available in India for doing agriculture works.
b) Enlist the important functions of seed drill.

Q.5 Determine the horse power required to pull the four bottom 30 cm plough working to a depth of 15 cm. The tractor is operating at a speed of 6 km/hr. The soil resistance is 0.7 kg/cm^2.

Q.6 a) State the advantages of disc plough.
b) Enlist important parts of the fuel supply system in spark ignition engine.

Q.7 What is Tillage? State the different objectives and types of tillage.

Q.8 a) Enlist the important components of Internal combustion engine.
b) Enlist the different types of shares used in Mouldboard plough.

Q.9 a) State the purpose of lubrication system used in Internal combustion engine.
b) Enlist the important methods used for seeding the crops.

Q.10 Write short notes on (Any Two):
a) Benefits of farm mechanization
b) Types of cultivators
c) Carburetor

SECTION 'B'

Q.11 Define the following terms:
1) Tilt angle 2) Compression ratio 3) Draft 4) IHP

Q.12 Fill in the blanks:
1) The procedure of testing the seed drill for correct seed rate is called _____ of the seed drill.
2) _____ is an implement used for churning of water in a standing crop.
3) Tractors are mostly equipped with the high-speed engines running at about _____ rpm.
4) _____ is the loss of value of the machine with passing of time.

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