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Daffodil International University

Department of Agricultural Science
Faculty of Health and Life Sciences
Final Examination – B.Sc. in Agricultural Science (L1 T2), Fall 2025
Course Code & Title: 0851-1103 — Farm Power and Machinery
Section: 252 (A, B, C)

Full Marks: 40 **Time: 2 Hours** **Teacher's Initial: MJA+ MAR**

Answer any eight questions below

"Split answering is strictly prohibited"

Sl.	Questions	PLO & CLO	Marks
1.	Define Agricultural Mechanization. What are the power sources of farm power and write down the status of mechanization in Bangladesh on the basis of statistical references published?	PLO1, CLO1	5
2.	Draw and label of a simple carburetor and explain how it works in a petrol engine.	PLO1, CLO2	5
3.	Why cooling is important for IC engines? Compare among the all water-cooling systems in a tabular form.	PLO3, CLO2	5
4.	A 4stroke 4cylinder engine has a stroke length of 12cm and stroke bore ratio 1.2:1. If the IMEP, total number of explosions and mechanical efficiency are 7 kg/cm^2 800/min and 75% respectively. Calculate Brake horse power and Firing interval.	PLO3, CLO2	5
5.	Define tillage, what are the types of tillage. Why disc plow is more preferable over mould board plow?	PLO2, CLO4	5
6.	A farmer uses a 3-bottom 36 cm mould board plow operated by a tractor for tilling 8 ha of land at a forward speed of 7.2 km/hr. If 20% time is lost for turning and other reasons. Find the effective operating time of tillage for this land. Calculate the cost of tillage if the tractor hiring cost with operator and implements is Tk.260 per hour.	PLO4, CLO4	5
7.	Shortly explain the seed sowing methods and compare between seeder and planter machines.	PLO4, CLO4	5
8.	Define priming and the necessity of priming of centrifugal pump. Shortly describe the working principle of centrifugal pump.	PLO5, CLO3	5
9.	What are the criteria for selecting a good tractor? What do you mean by 2WD and 4WD tractors? Narrate different uses of tractor and power tiller	CLO3	5
10.	Write short notes on (a) Combine harvester (b) Thresher (c) Mower (d) Rice transplanter, and (e) Centrifugal pump	CLO6	5