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Daffodil International University

Department of Agricultural Science
Faculty of Agriculture Sciences
Midterm Examination-Fall 2026

Course Code: 0851-1103 **Course Title:** Farm Power and Machinery
Level and Term: L1, T2 **Section:** A, B, C, D **Course Teacher Initials:** DWA+KI
Time: 1 hour 30 Mins **Total Marks:** 25

Splitting any answer is strictly prohibited

			Marks
1	List the major farm machinery and implements used at each stage of rice production, along with the major challenges of farm mechanization in Bangladesh and their potential solutions.	CLO1, PLO1 C1	5
2	Describe the importance of a flywheel. Illustrate the working principle of a tractor engine.	CLO2, PLO2 C2	5
3	A double-cylinder, four-stroke engine operates a combine harvester for rice harvesting. The cylinder bore is 16 cm, the stroke-to-bore ratio is 1.1:1, the crankshaft speed is 1,000 rpm, and the clearance volume is 220 cc. Calculate the engine displacement volume, piston speed, compression ratio, and firing interval. Does this engine have a spark plug? If yes or no, why?	CLO2, PLO2 C3	5
4	Apply appropriate troubleshooting and maintenance procedures to address the tractor engine's overheating, excessive fuel consumption, black smoke emission, and starting difficulties.	CLO2, PLO2 C3	5
5	Analyze why multicylinder engines require a smaller flywheel. Differentiate between petrol and diesel engines.	CLO2, PLO2 C4	5