



Roll no.....

School of Agricultural Sciences

B. Sc. (Hons.) Agriculture

End-Term Examination

December, 2024

SAAG214A – Farm Machinery and Power

Time: 2.5 Hours

Maximum Marks: 30

Instructions:

- 1) Question No. 1 under Section-A is compulsory.
- 2) Attempt any four from Q. No. 2 to Q. No. 6 under Section-B
- 3) Attempt any two from Q. No. 7 to Q. No.9 under Section-C

Section-A(Compulsory)

1. (a) Fill in the blanks with appropriate words: 2 [CO-1] [L-2]
 - (i) An internal combustion (IC) engine uses _____ or _____ as fuel to generate power.
 - (ii) The spark plug in a petrol engine is responsible for _____ the fuel mixture.
1. (b) True/ False: 2 [CO-1] [L-3]
 - (i) In a two-stroke engine, the power cycle is completed in two piston movements. (True/False)
 - (ii) The main function of the carburetor in an IC engine is to cool the engine. True/False
1. (c) Multiple Choice Question: 2 [CO-1] [L-1]
 - (i) Which type of engine does not require a spark plug?
a) Petrol engine b) Diesel engine c) Gasoline engine d) None of the above
 - (ii) Which component in a tractor allows power transfer to the wheels at different speeds?
a) Gearbox b) Differential c) Clutch d) Cooling system
 - (iii) Cost analysis of tractor power includes:
a) Only fuel costs b) Fuel, maintenance, and depreciation
c) Only maintenance costs d) Only initial purchase cost

Section-B

2. Why is a cooling system essential in IC engines, especially for tractors? 3[CO-1] [L-3]
3. Why is cost analysis of tractor power important for farm operations? 3[CO-2] [L-1]
4. What is the purpose of the air cleaning system in a tractor's IC engine? 3[CO-4] [L-2]
5. Mention one tillage implement suitable for hill agriculture and its specific use. 3[CO-3] [L-2]
6. Explain why calibration is essential in seed drill operation. 3[CO-2] [L-1]

Section-C

7. Discuss the status of farm power in India, focusing on the main sources of power used in agriculture. 6[CO-2] [L-3]
8. Describe the air cleaning, cooling, lubrication, and fuel supply systems in a tractor's IC engine. 6[CO-4] [L-2]

9. Describe the different types of harvesting equipment used in agriculture and compare their effectiveness in different crop types. **6[CO-5] [L-3]**
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Answer:

(a) Fill in the blanks with appropriate words

i. diesel, gasoline

ii. igniting

(b) True/ False

i. (True

ii. False

(c) Multiple Choice Question:

2

Answer: b) Diesel engine

Answer: b) Differential

Answer: b) Fuel, maintenance, and depreciation