

Roll No.

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Total No. of Pages : 02

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B.Voc. (Agriculture) (Sem.-6)

FARM POWER AND MACHINERY

Subject Code : BVAG-603-18

M.Code : 79429

Date of Examination : 07-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

- 1. Write briefly :**
- a) Differential lock
 - b) Manifolds
 - c) Spark plug
 - d) Speed droop
 - e) Displacement volume
 - f) Draft control system
 - g) Mower
 - h) Syndicator thresher
 - i) Shoe loss
 - j) Bund former.

SECTION-B

2. Discuss the working of the fuel supply system of CI engine by giving suitable diagram.
3. A Massey Fergusson 1035 diesel engine has a 3 cylinder giving one power stroke for every 2 revolutions of crankshaft, cylinder bore=88.9 mm, stroke=127 mm, compression ratio=16.5:1, belt horse power = 32 and engine speed=2000 rpm. Calculate, a) piston displacement, b) displacement volume, c) piston speed, d) stroke bore ratio.
4. Why cooling of an engine is required? Also write the bad effect of high temperature in the engine.
5. Discuss about magneto ignition system along with labeled neat circuit diagram.
6. Calculate actual field capacity, theoretical field capacity and field efficiency of a 3 bottom 35 cm plough. The speed of ploughing is 3.5 kmph and time lost during various factors is 20 % of the total time.

SECTION-C

7. What is a clutch and why it is necessary? What are the essential features of a good clutch? Discuss the working of an axial spring type single plate clutch along with its neat and labeled diagram.
8. Determine the cost of operation per hour of a tractor with the following parameters; price of tractor = Rs. 4,50,000/-, life of tractor = 10 years, salvage value = 10%, interest rate = 12%, shelter & insurance charges = 2 % of purchase price, Price of Diesel = Rs. 86/- per litre, driver charges = Rs. 80 per hour, annual use of tractor= 1000 hr. Assume any other necessary assumptions, if required.
9. What is a tractor? Describe the different types of tractors. Also describe in details about the various factors affecting the selection of a farm tractor.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.