KERALA AGRICULTURAL UNIVERSITY
B. Tech. (Agrl. Engg.) 2021 Admission
V Semester Final Examination – January 2024

Fpme.3109   **Tractor Systems and Control (2+1)**   **Marks: 50**
Time: 2 hours

I   **Fill in the blanks**   (10x1=10)
1. Exhaust valve of tractor engine is made of...............
2. If the tyre size is 80 x 14.0, then diameter of the tyre will be ....Inches.
3. Bleeding process in braking system removes ....
4. Tyre having Aspect ratio 100 is termed as .... tyre.
5. Piston pin is also called as .... pin.
6. API gravity of pure water is ....
7. In IC engine, thermostat valve is opened at the temperature from ....
8. Before starting a tractor, PTO lever is kept in to .... position
9. The compression pressure of a diesel engine inside cylinder varies from .... kg/sq. cm.
10. Pressure of a radiator cap in cooling system of engine is about .... to .... kg/ sq. cm.

II   **Write short notes on ANY FIVE of the following**   (5x2=10)
1. Toe in and toe out
2. Function of fly wheel
3. Piston crown and skirt
4. Crank case ventilation
5. Haulage test of tractor
6. Essential features of good clutch
7. Weight transfer

III   **Answer ANY FIVE of the following**   (5x4=20)
1. Describe hydraulic control of valve.
2. List the function and requirement of steering mechanism.
3. Describe friction clutch.
4. Describe Pre cleaner.
5. Describe Centre of gravity of tractor by balancing method.
6. Describe proney brake dynamometer.
7. Describe air standard efficiency relative efficiency and scavenging efficiency.

IV   **Write an essay on ANY ONE of the following**   (1x10=10)
1. What are human factors consider for tractor design?
2. Short notes on environmental condition and workplace design for tractor.

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