GIET UNIVERSITY, GUNUPUR – 765022

B. Sc. (Ag.) (Third Semester) Examinations, January – 2024

FMP(Ag.)-211– Farm Machinery & Power

Time: 2 hrs   Maximum : 50 Marks

The figures in the right hand margin indicate marks.

PART – A

Q.1. Fill in the blanks with suitable word / figure.   **(0.5 x 10 = 5 Marks)**

a. The average power developed by a pair of bullocks is about .... for farm operations.

b. .... is a link between the piston and the crankshaft?

c. For four cylinders the most commonly used firing orders are........................

d. Fuel injection pump is used to create pressure varying from .... to....................

e. Lubricating oil pump is a............................

f. The cooling system of IC engine should maintain the engine temperature at........... to .... °C for petrol engine.

g. .... is a device to join both half axles of the tractor so that even if one wheel is less resistance, the tractor comes out of the mud etc. as both wheels move with the same speed and apply equal traction.

h. .... is the part of the Mould board plough bottom to which the share, mould board and land side are attached rigidly.

i. The disc angle of Disc plough varies between.............. and................

j. .... is a machine to apply fluids in the form of droplets.

Q. 2. Define (or) Explain the following in one or two sentences.   **(1 x 5 = 5 Marks)**

a. Bore

b. Swept volume

c. Effective field capacity

d. Tilt Angle

e. Threshing

Q3. Match the following   **(0.5 x 10 = 5 Marks)**

	Column – A			Column – B
(a)	Brake Horse Power		(i)	3 kg/cm^2
(b)	Human power		(ii)	Secondary tillage Implement
(c)	Efficiency of Petrol engine		(iii)	Mower
(d)	Crown		(iv)	Deliver seeds or fertilizers from the hopper at selected rates
(e)	Fuel lift pump		(v)	The horsepower delivered by the engine and is available at the end of the crankshaft.
(f)	Air cooling System		(vi)	0.1 horse power
(g)	Pressure is developed in the lubrication		(vii)	25 and 32%.

	system of a tractor engine		
(h)	Disc Harrow	(viii)	Top of the piston
(i)	Harvesting of Fodder Crops	(ix)	2.5 kg/cm^2
(j)	Seed metering mechanism	(x)	Fins of Engine Cylinder Head

Q4. Write True or False against each statement **(0.5 x 10 = 5 Marks)**

a. Valve timing diagram is a function of engine speed.

b. Air cooling system is used for smaller engine.

c. Power tiller is a self-propelled power unit.

d. Hydraulic brakes work on the principle of Pascal's law.

e. In Position control, constant depth of operation is maintained by automatic adjustment of draft of tractor.

f. The forward end of the cutting edge which actually penetrates into the soil is called share point.

g. Disc plough is much heavier than mould board plough for equal capacities.

h. Off-set disc harrow is a double action disc harrow.

i. Both star type and peg type weeders are also called as Wet land weeders.

j. The threshing can be achieved by three methods: Rubbing action, Impact and Stripping.

PART – B

Attempt *ANY FIVE* questions. All question carries equal marks **(6 x 5 = 30 Marks)**

5. Explain working of Four- Stroke Cycle Diesel Engine with help of neat sketch.

6. Explain Splash Lubrication System with help of neat sketch.

7. Explain Forced Circulation Water Cooling System with help of neat sketch.

8. Explain various Components of Disc ploughs with help of neat sketch.

9. Explain Cultivator with rigid tines with help of neat sk etch.

10. Explain Components of seed drill with help of neat sketch.

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