

Question1. (4 marks)

Agriculture engineering is basically classified in four groups. Name the four engineering classifications.

Question2. (4 marks)

Name the four energy sources used in Agriculture.

Question3. (5 marks)

Agricultural engineering is a specialized branch of engineering concerned with; Circle 5 correct answers from the list below.

- 1.Design of TV network
- 2.Manufacture of tractors
- 3.Modification of harvesters
- 4.Maintenance of irrigation systems
- 5.Soil management and conservation
- 6.Animal biology
- 7.Astronomy

Question4. (6 marks)

Name the 6 major component of two stroke ignition engines.

Question5. (5 marks)

Tillage is classified as either primary or secondary. Explain briefly these two types of tillage.

Question6. (5 marks)

Name the 5 policies and regulations that is used in water resource management.

Question7. (5 marks)

Name five types of mechanical devices used to pump, or supply pressure, energy or head to a fluid.

Question8. (3 marks)

What are the 3 goals in Land Urban Planning?

Question9.

(5 Marks)

Briefly describe the two types of land surveying

A. Geodetic surveying

B. Plain surveying

Question10.

(10 marks)

There are 8 classes of land surveying. Name only 5 and briefly describe them.

Question11.

(6 marks)

Name 3 types of Meridian and explain briefly their characteristics

Question12.

(5 marks)

Name 5 most important equipment you need during Compass and Chain surveying.

Question13.

(10 marks)

Explain the functions of the following parts of the Automatics Level

1. The telescope
2. The foot screws
3. The tripod
4. The bubble tube
5. The horizontal slow motion screws

Question14.

(7 marks)

Describe how to lay out a line at right angles to the base line using the chord method, use sketch to show.

Question15.

(10 marks)

A survey was done marking the boundary of a piece of land having the river bank as the boundary. The following offsets, 8m apart were measured at right angles from the traverse line to the river bank of the river.

OS1=0m, OS2=2.3m, OS3=5.5m, OS4=7.9m, OS5=8.6m, OS6=6.9m, OS7=7.3m, OS8=6.2m, OS9=3.1m and OSn=0m

Calculate the area using the Trapezoidal Rule; $A=L/2(os_1+os_n+2(os_2+os_3+os_4+\dots+os_{n-1}))$

Question 16

BS	IS	FS	HI/HC	RISE	FALL	RL	REMARKS
1.255						154.375	BM35
0.465		1.100					2
0.130		2.095					3
5.765		0.245					4
		0.345					5

- A. Calculate the height of collimation of the two instrument setups. (2marks)
- B. Calculate the Reduced Levels of all the points. (4marks)
- C. Calculate the staff reading required to peg out the 155.00m contour interval. (2marks)
- D. Calculate the staff reading required to peg out the 153.00m contour interval. (2marks)

END OF THE EXAM