Sub Code:KAG302

Paper Id: 180302 Roll No:

B. TECH.
(SEM-III) THEORY EXAMINATION 2019-20
ELEMENTARY AFRICULTURE & SURVEYING AND LEVELLING

Time: 3 Hours ***Total Marks: 100***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20

Qno.	Question	Marks	CO
a.	What are the origins of soils?	2	1
b.	Write deficiency symptoms in plants.	2	1
c.	Write name of Rabi crops.	2	2
d.	Define crop coefficient.	2	2
e.	Write classification of surveying.	2	3
f.	Define Diagonal scale.	2	3
g.	What do you understand of propagation of standard errors?	2	4
h.	Define traversing.	2	4
i.	Draw the neat sketch of cross staff.	2	5
j.	What do you understand field book entries?	2	5

SECTION B

2. Attempt any *three* of the following: 3 x 10 = 30

Qno.	Question	Marks	CO
a.	Define the following : (i) Textural classification (ii) Highway Research Board (HRB) classification	10	1
b.	Which type soil and climatic requirements for fruits? Explain in detail.	10	2
c.	The measured sides of a rectangular tract are 30.270 m and 56.0700m . The measurement was made. Using a 30 m metallic tape, too short by 0.025m. What would be the error in the area of tract?	10	3
d.	In a traverse survey, the angular measurements were made with an error of 20''. What is the relative accuracy in the linear measurements?	10	4
e.	Describe the methods of reducing levels, and their advantages and disadvantages.	10	5

SECTION C

3. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	Explain important soil physical properties and their importance.	10	1
b.	Write important inorganic fertilizers and their reaction in soils.	10	1

4. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	Describe Playhouses for flowers and vegetables.	10	2
b.	Explain principles of tillage and why water requirements for crops and crop rotation?	10	2

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5. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	A chain line ABC crosses a river. The points B and C are situated on near and opposite banks of the river , respectively . The bearing of a line BD , perpendicular to AC at B, and 50 m long , is 45”20’. The measured bearing of DC is 204”50’. Determine the width BC of the river.	10	3
b.	What do you understand by ranging a line? How will you range a line between two points which are not visible to each other due to a small hillock in between?	10	3

6. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	What do you mean by balancing of transverse? Discuss briefly the common methods of balancing a transverse.	10	4
b.	The R.l of plane station is 50 m and the height of the eye-hole of the clinometers above the ground is 1.5 m. Calculate the R.L. of clinopole station A, when the reading upon the tangent clinometers scale is +0.035. The distance to A scaled from the plan is 3500m and the clinopole target 3 m above the ground at A, was sighted.	10	4

7. Attempt any *one* part of the following: 1 x 10 = 10

Qno.	Question	Marks	CO
a.	The following readings were taken with a level and a 4 m staff. Draw uo a level book page and reduce the levels by The rise and fall method. 0.683 B.M. (51.362m) , 1.109, 1.838, 3.399, (3.877 and 0.451) C.P., 1.405, 1.896, 2.676, 3.478, (3.999 and 1.834) C.P., 0.649, 1.706	10	
b.	A theodolite was set up at a point P and staff was kept at a station Q. The distance PQ was 3010 m. If the angle of elevation to a vane 3.5 m above the foot of staff , was $7^0 59’$, determine the reduced level of the station Q, The elevation of the instrument axis was 120.80 m.	10	