QPC: RD20BTECH409 AR 20 Reg. No

GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fifth Semester – Regular) Examinations, December – 2022

BPCAG5015 – Soil and Water Conservation Engineering

(Agricultural Engineering)

Time: 3 hrs Maximum: 70 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions) **(1 x 10 = 10 Marks)**

Q.1. Answer ***ALL*** questions [CO#] [PO#]

a. Rill erosion is also called as CO1 PO2

(i) Micro channel irrigation (ii) Major channel irrigation

(iii) None of the above (iv) All of Above

b. We should use vertical mulches in which type of soil? CO1 PO2

(i) Red soil. (ii) Desert soil.

(iii) Alluvial soil (iv) Black soil.

c. What is contour binding? CO2 PO1

(i) Binding in plains. (ii) Binding in hilly areas.

(iii) Binding in desert areas. (iv) Binding in coastal areas.

d. Which pair is true? CO2 PO2

(i) Bench terracing – 16 to 33%. (ii) Contour binding – >6%.

(iii) Agronomical measures – 2%. (iv) Mechanical measures – <2%.

e. Soil erosion is more common by the wind in which Indian state? CO2 PO3

(i) Arunachal Pradesh. (ii) Rajasthan.

(iii) Andhra Pradesh. (iv) Uttar Pradesh.

f. What should be the slope of land for mechanical measures? CO3 PO2

(i) >2%. (ii) 2

(iii) <2. (iv) None of the above.

g. Soil erosion is the function of CO3 PO3

(i) Erosivity (ii) Erodibility

(iii) Both (i) and (ii) (iv) None of the above

h. The magnitude of wind turbulence is greater at CO4 PO1

(i) Ground surface (ii) Rough surface

(iii) Smooth surface (iv) None of the above

i. Wind turbulence is greater on CO4 PO2

(i) Rough surface (ii) Smooth surface

(iii) Undulating surface (iv) None of the above

j. Wind turbulence is increases with increase in CO4 PO1

(i) Friction velocity (ii) Velocity

(iii) Pressure (iv) Temperature

PART – B: (Short Answer Questions) **(2 x 10 = 20 Marks)**

Q.2. Answer ***ALL*** questions	[CO#]	[PO#]
a. What is meant by Soil erosion?	CO1	PO2
b. Briefly Explain about Geological erosion?	CO1	PO3
c. What is meant by sheet erosion?	CO2	PO1
d. What is the terrace? Explain briefly?	CO2	PO3
e. What is meant by stream bank erosion?	CO2	PO1
f. What are the functions of terrace?	CO3	PO2
g. What is meant by Soil loss estimation?	CO3	PO2
h. Define Soil erodibility?	CO4	PO3
i. Briefly explain about crop management?	CO4	PO1
j. What is meant by Runoff plots?	CO4	PO3

PART – C: (Long Answer Questions) **(10 x 4 = 40 Marks)**

Answer ***ALL*** questions	Marks	[CO#]	[PO#]
3. a. What are the causes of Soil erosion?	5	CO1	PO2
b. What are the Different types of soil erosion agents?	5	CO1	PO1
(OR)			
c. What are the factors affecting soil erosion?	5	CO1	PO2
d. What are the classification of gullies?	5	CO1	PO3
4. a. How can you measure the Soil erosion?	5	CO2	PO1
b. What is the USLE? Explain it?	5	CO2	PO3
(OR)			
c. Explain about Strip Cropping?	5	CO2	PO1
d. What is meant by Modified Universal Soil loss equation? Explain it?	5	CO2	PO3
5. a. What are the Water erosion control measurements?	5	CO3	PO1
b. What are the conservation practice factors?	5	CO3	PO3
(OR)			
c. How can you Estimate the Rainfall erosivity by EI30 Method?	5	CO3	PO2
d. What is meant by Agronomical measures? Explain it?	5	CO3	PO3
6. a. Explain about Design of bench terrace?	5	CO4	PO3
b. What is the purpose of Windbreaks? Explain it?	5	CO4	PO4
(OR)			
c. Explain about Design of graded bunds?	5	CO4	PO1
d. Write about mode of sediment transportation.	5	CO4	PO2

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