SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : SWE(16AG705) **Course & Branch**: B. Tech – AG

Year & Sem: III-B.Tech & I-Sem **Regulation:** R16

UNIT-I

INTRODUCTION

1. Describe the various problems caused by erosion in Agriculture land. 12M
2. List various soil conservation research stations in India. 12M
3. Define soil erosion and describe the factors affecting the soil erosion. 12M
4. Define water erosion and the mechanics of splash erosion. 12M
5. Define detachment and transportation of soil particles under water erosion. 12M
6. Write a short note on (2×6=12M)
   a) Gully erosion
   b) Stream bank erosion
   c) Terminal velocity
   d) Kinetic energy
   e) Geological erosion
   f) Sheet erosion
7. Explain the universal soil loss equation (USLE) and explain each parameter in detail. 12M
8. Calculate soil loss per acre per year from following data 12M
   i. R=250
   ii. K=0.30
   iii. L= 150 feet
   iv. S= 6 %
   v. P=1
   vi. C=1
9. Explain the modified universal soil loss equation (MUSLE) and explain each parameter in detail. 12M
10. Write the difference between USLE and MUSLE; describe limitations of MUSLE. 12M

UNIT-II

1. Explain the mechanism of wind erosion. 12M
2. Explain in detail factors affecting wind erosion. 12M
3. Explain wind erosion control measures. 12M
4. Explain the factors affecting runoff rate. 12M
5. Enlist different methods of estimation of peak rate of runoff and explain rational method. 12M
6. Describe land use capability classification based on different criteria with a special reference to slope. 12M
7. Explain agronomic and mechanical or engineering measures. 12M
8. Explain curve number method for estimation of runoff. 12M
9. Explain cook method for estimation of runoff. 12M
10. Write briefly about different hydrological soil groups. 12M

UNIT III

1) Define bund and write its feasibility for construction. 12M
2) Describe the design parameters of bund. 12M
3) Write short notes on (2×6=12M)
   a) Grassed weir
   b) Graded bund
   c) Vertical spacing
   d) Horizontal spacing
   e) Contour bund
   f) Height of bund
4) Enlist and explain various types of bunds used in soil conservation practice. 12M
5) Explain design of contour bunds under following aspects. 12M
   a) Horizontal and vertical intervals
   b) Bund dimension
   c) Area lost in bund construction
6) Describe the advantages of contour and graded bunds. 12M
7) Define terrace and write its importance. 12M
8) Describe design of bench terrace. 12M
9) Write a short note on following (2×6=12M)
   a) Level terrace
   b) Batter slope
   c) Shoulder bund
   d) Terrace cross section
   e) Irrigated terrace
   f) Terrace spacing
10) Describe the construction and management of terrace system. 12M

UNIT IV

1. Define grassed water ways and write its importance in soil conservation. 12M
2. Explain the design steps of grassed water ways. 12M
3. Describe various shapes of grassed water ways, why parabolic shape is considered most suitable section of grassed water ways and explain factors affecting shapes of grassed water ways. 12M
4. Define sediment and various sources of sediments. 12M
5. Explain the factors affecting sediment yield. 12M
6. Explain sediment transportation. 12M
7. Factors affecting the sediment distribution pattern. 12M
8. Define sediment delivery ration and trap efficiency. 12M
9. Explain pre and post sedimentation control methods. 12M
10. Define contours and write the procedure for preparation of a contour map. 12M

UNIT V

1. Describe water harvesting and its importance. 12M
2. Explain various water harvesting techniques. 12M
3. Define farm pond, list different types of farm ponds and describe embankment type farm pond. 12M
4. Write the procedure to determine farm pond capacity. 12M
5. Define check dam and its working principle. 12M
6. Classify the temporary and semi permanent gully control structures and explain temporary structures. 12M
7. Explain permanent gully control structures and write their requirement. 12M
8. Explain the location of different permanent gully control structure. 12M
9. Explain design steps of gully control structure. 12M
10. Write a note on (2×6=12M)
    a. Piping
    b. Froud number
    c. Stilling basin
    d. Hydraulic jump
    e. Anticeep collar
    f. Uplift pressure