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1. Provision to mitigate the disadvantages of the "tail-end farmer" of a canal, outlet is provided in the water delivery pattern under:

(a) Warabandi system
(b)Block system
(c) Shejapali system
(d) Localised system
Ans: a

2. The gauge used to measure the depth of flow over a weir is located upstream of the weir at a distance of about.....

(a) twice the approximate head
(b) thrice the approximate head
(c) four times the approximate head
(d) five times the approximate head
Ans: c

3. The permissible value of mean velocity of flow in an earth channel in loamy soil is

(a) 40 cm/sec
(b) 60 cm/sec
(c) 80 cm/sec
(d) 1 m/sec
Ans: b

4. The most commonly adopted land levelling design in small scale jobs is:

(a) contour adjustment method
(b) profile method
(c) plane method
(d) plan inspection method
Ans: c

5. The most important factors influencing evaporation from land surfaces is

(a) degree of saturation of soil surface
(b) temperature of air and soil
(c) humidity and wind velocity
(d) density of vegetative cover
Ans: d

6. The most important factor influencing the evapotranspiration of a crop is:

(a) physiology of the crop
(b) stage of growth of the crop
(c) degree of crop cover
(d) location from where the data are obtained
Ans: b

7. The minimum land slope required in land irrigated with surface methods of water application is:

(a) 0.01 %
(b) 0.05%
(c) 0.10%
(d) 0.15 %
Ans: b

8. Soil excluder is provided:

(a) in the canal downstream side of the head regulator
(b) in the river on the downstream side of barrage
(c) in the river faraway from weir on the downstream side
(d) in the river adjacent to the head regulator
Ans: d

9. ……. water is difficult to drain because the drains have to be placed much closer together in these areas:

(a) artesian
(b) non artesian
(c) artesian, non-artesian both
(d) none of above
Ans: a

10. The soil moisture at field capacity varies from soil to soil but it generally ranges from:

(a) 1/10 to 1/3
(b) 1/3 to 15
(c) 15 to 31
(d) 31 to 10,000
Ans: a

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11. Isotropic soil is…….

(a)The soil in which hydraulic properties are same in all directions
(b) The soil in which chemical properties are same in all directions
(c) The soil in which only hydraulic properties are same in only one direction
(d) The soil in which all properties are same in all directions
Ans: a

12. Intensive irrigation should be avoided in areas……..

(a) which are arid
(b) which are semiarid
(c) susceptible to water logging
(d) None of above
Ans: c

13. The power requirement for the propeller pump is…….. As head is…...

(a) decreased, increased
(b) increased, increased
(c) increased, constant
(d) constant, decreasing
Ans: b

14. The velocity of water in main should not be greater than ..... m/s.

(a) 1.5
(b) 1.1
(c) 1.75
(d) 2.1
Ans: a

15. When the Reynolds number ranges from 2000 to 4000, the flow regime is……..

(a) Laminar
(b) partially turbulent
(c) fully turbulent
(d) unstable
Ans: d

16. The laterals can withstand maximum pressure of ……kg/cm²,

(a) 1 to 2
(b) 3 to 4.5
(c) 2.5 to 4
(d) 3 to 6

Ans: c

17. Generally, injection of fertilizer through drip irrigation systems is not recommended…….

(a) nitrogen
(b) phosphorous
(c) potassium
(d) micro-nutrient
Ans: b

18. In drip irrigation systems, for irrigation scheduling……..approach is generally used.

(a) IW/CPE
(b) climatological
(c) MAD
(d) soil moisture
Ans: b

19. Sprinkler system is designed for …….. of consumptive use of crops irrigated by it.
(a) daily peak rate
(b) minimum rate
(c) average rate
(d) maximum rate
Ans: a

20. The average rate of application of sprinklers is also called …….

(a) precipitation intensity
(b) sprinkler rate
(c) pattern efficiency
(d) distribution of sprinkler
Ans: a

21. The maximum possible water is possible in……..type of soil.

(a) silty loam
(b) clay
(c) clay loam
(d) sandy loam
Ans: b

22. The maximum water application rate of a sprinkler in light sandy loam soils on land with slope ranging from 1 to 5% is …….

(a) 1.5 cm/hr
(b) 2 cm/hr
(c) 2.5 cm/hr
(d) 3 cm/hr
Ans: c

23. An aquifer is a geologic formation that……

(a) contain water but does not transmit
(b) does not contain water
(c) contain water and also transmit
(d) is a rock outcrop
Ans: c

24. The major source of groundwater replenishment is ……..

(a) seepage from water bodies
(b) precipitation
(c) deep percolation from irrigated fields
(d) artificial ground water recharge
Ans: a

25. The top of the water saturated zone is known as……..

(a) aquifer
(b) hydraulic head
(c) aquitard
(d) water table
Ans: d

26. Good aquifers include all of the following except …….

(a) sandstone
(b) limestone
(c) crystalline
(d) basalt
Ans: d

27. Specific yield is the property of …….

(a) confined aquifer
(b) unconfined aquifer
(c) leaky-confined aquifer
(d) artesian aquifer

Ans: b

28. A cavity well is a tube well which has.....

(a) a strainer
(b) no strainer
(c) slotted pipe and gravel pack
(d) a brass screen
Ans: b

29. For a given discharge rate, the radius of influence is more in……..

(a) unconfined aquifer
(b) confined aquifer
(c) perched aquifer
(d) multi-layered aquifer
Ans: b

30. A tensiometer measures.....

(a) water tension in an unconfined aquifer
(b) water pressure in an unsaturated zone
(c) water tension in a confined aquifer
(d) soil moisture tension in an unsaturated zone
Ans: d

31. Which of the following geologic materials would make the best aquifer?

(a) well-sorted gravel
(b) poorly-sorted gravel
(c) poorly-sorted sands
(d) well-sorted sands
Ans: a

32. When the value of leakage factor approaches infinity, the layer is considered to be……

(a) impervious
(b) semi impervious
(c) Pervious
(d) None of above
Ans: c

33. For uniform aquifers, the Central Board of Irrigation & Power recommended the P.A. ratio which lies between

(a) 9 to 12.5
(b) 12 to 15.5
(c) 7 to 9.5
(d) 15 to 17.3
Ans: a

34. Water quantity pumped per unit drawdown is called…….
(a) Well yield
(b) Specific capacity
(c) Coefficient of storage
(d) all the above
Ans: b

35. In which condition, the groundwater recharge will be more.

(a) high water table
(b) Stratified aquifer
(c) deep water table
(d) water source is rainfall
Ans: c

36. It is desirable to install the weir at a point where…..

(a) Channel bed is straight on upstream and downstream site
(b) there is drop in the elevation of channel bed on the upstream side
(c) there is drop in the elevation of the channel bed on the downstream side
(d) none of above
Ans: c

37. The open area of a well screen as a percentage of the surface area of the is……

(a) 10 %
(b) 15 %
(c) 20 %
(d) 25 %
Ans: b

38. Weep holes in the well lining of open wells are provided……..

(a) to strengthen the wall
(b) to permit entry of water in to the well
(c) for sinking of the well
(d) to sustain lateral earth pressure

Ans: b

39. The lower limit for thickness of artificial gravel pack is.....

(a) 5.0 cm
(b) 7.5 cm
(c) 10.0 cm
(d) 12.5 cm
Ans: b

40. The economical method of drilling in alluvium formation is……..

(a) direct rotary
(b) reverse rotary
(c) cable tool
(d) DTH
Ans: b

41. Well development with air pressure is not suitable for

(a) agricultural strainer
(b) cavity well
(c) gravel packed well
(d) rye strainer
Ans: b

42. The system head curve of a pump indicates the……..

(a) friction loss of the system
(b) liquid velocity in the system
(c) total head required by the system
(d) brake horsepower of the motor
Ans: c

43. Most hydraulic rams work at the best efficiency if the lift magnification ratio is limited to……

(a) 4:1
(b) 8:1
(c) 12:1
(d) 24:1
Ans: a

44. As per BIS, the centrifugal pump should be installed in such a way as to limit the total suction lift, including drawdown & friction losses to…….m.

(a) 6.5
(b) 10.33
(c) 5.6
(d) 4.5
Ans: d

45. Saline soil can be reclaimed by……...

(a) Leaching
(b) Scrapping
(c) Adding gypsum
(d) By adding salt-tolerant crops
Ans: a

46. Drain spacing is directly proportional to ……..

(a) Type of soil
(b) type of Gravel material
(c) Drain discharge
(d) None of above
Ans: c

47. Interceptor drains are always …….

(a) In the direction of water flow
(b) Perpendicular to water flow
(c) Along contour lines
(d) All above options are correct
Ans: b

48. Drainage removes only…..... water from the soil.

(a) Gravitational
(b) Held water
(c) Capillary
(d) Pressurized water
Ans: a

49. For faster salt removal from the root zone of agricultural lands, the best option is..
(a) Surface drainage
(b) Sub-surface drainage
(c) Bio-drainage
(d) Vertical drainage

Ans: b

50. For a circular watershed, the circularity ratio is……
(a) 0
(b) II
(c)∞
(d) 1
Ans: d

51. The rainfall intensity-duration-recurrence interval relation is generally ……
(a) Linear
(b) Quadratic
(c) Exponential
(d) Logarithmic
Ans: d

52. The coefficient C of the rational formula…..

(a) Depends on watershed area
(b) Does not depend on watershed area
(c) Increases with increasing watershed area
(d) Decreases with increasing watershed area
Ans: d

53. The soil physical property that is essentially found in all sub-surface drainage equations is...

(a) Bulk density
(b) Viscosity
(c) Drainable porosity a
(d) Hydraulic conductivity
Ans: d

54. A multiple well point system for drainage is constructed when the aquifer is.....
(a) Confined
(b) Unconfined
(c) Leaky
(d) Saline
Ans: d

55. The recharge rate through a tube well slows down due to…..
(a) Air entrapment
(b) Reduced supply discharge
(c) Increase in hydraulic head
(d) Reduction in hydraulic head
Ans: a

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56. The layout plan of a drainage system is developed on the ….

(a) Cadastral map
(b) Contour map
(c) Scaled up map
(d) Field
Ans: b

57. Drainage system layout in the field should start from the.....

(a) Upstream
(b) Outlet
(c) Most easily accessible area
(d) Worst affected area
Ans: b

58. The design rate to be used in planning irrigation systems is….
(a) Consumptive use
(b) Seasonal consumptive use
(c) Peak period consumptive use
(d) None of these
Ans: c

59. The most widely used evaporation pan is….
(a) Piche evaporimeter
(b) U. S. W. B. class A pan
(c) Metallic pans
(d) None of these
Ans: b

60. The average daily water use rate during the few days of the highest consumptive use of the season is called the…….
(a) Seasonal consumptive use
(b) Peak period consumptive use
(c) Consumptive use
(d) None of these
Ans: b

61. The most efficient cross section of channel is……
(a) Rectangle
(b) Semi-circular
(c) Trapezoidal
(d) Triangular
Ans: b

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62. The total area which can be irrigated by a certain channel or project is……

(a) Gross command area
(b) Command area
(c) Culturable command area
(d) Actual area irrigated
Ans: a

63. A soil that has high porosity and coarse open texture has a .....

(a) Low hydraulic conductivity
(b) Medium hydraulic conductivity
(c) High hydraulic conductivity
(d) None of these
Ans: c

64. Irrigation canals are generally aligned along…..

(a) ridge line
(b) contour line
(c) valley line
(d) straight line
Ans: a

65. .....load is that in which the sediment moves along the bed with occasional jumps into the channel.

(a) sediment load
(b) bed load
(c) suspended load
(d) all of above
Ans: b

66. Conveyance losses from the canal depend on….

(a) Soil properties or quality of lining material
(b) Quantity of water discharged in canal
(c) Wholly on soil properties
(d) Application method of irrigation water
Ans: a

67. …….dividing the river width into two portions; one is called the weir portion, and another is under the sluice portion.

(a) fish ladder
(b) guide bank
(c) divide wall
(d) none of above
Ans: c

68. The canal, which is aligned along any natural watershed, is called……..

(a) contour canals
(b) side slope canals
(c) watershed canals
(d) none of above
Ans: c

69. ……..is the ratio of the rate of change of discharge of the outlet to the rate of change of discharge of the distribution of the canal.

(a) proportionality
(b) flexibility
(c) setting
(d) sensitivity
Ans: b

70. …….is installed to indicate the hydrostatic pressure of ground water at the lower end of the pipe.

(a) observation wells
(b) piezometers
(c) tube wells
(d) none of above
Ans: b

71. The Tensiometer and plaster of Paris block works on soil moisture tension of ..... respectively.

(a) 0.85 and 1 to 15 atm
(b) 0.85 and 0.85 to 15 atm
(c) 0.85 and 15 to 0.85 atm
(d) 0.85 and 0.85 to 1 atm
Ans: a

72. One cumec of water is pumped into a farm distribution system, 0.8 cumec is delivered to a turnout, 0.9 kilometer from the well. Compute the conveyance efficiency.

(a) 80 %
(b) 20 %
(c) 78.95 %
(d) 22 %
Ans: a

73. Gauge pressure at a point is equal to….

(a) absolute pressure plus atmospheric pressure
(b) absolute pressure minus atmospheric pressure
(c) vacuum pressure plus absolute pressure
(d) none of the above
Ans: b

74. If the flow characteristics like velocity, depth and rate of flow at any point in open channel do not change with respect to time, the flow is said to be ……

(a) unsteady flow
(b) non uniform flow
(c) steady flow
(d) None of above
Ans: c

75. Notch is a device used for measuring …….

(a) rate of flow through pipes
(b) rate of flow through small channel
(c) velocity through pipe
(d) velocity through a small channel
Ans: b

76. Sedimentation analysis is based on .....law.

(a) Darcy's law
(b) Stoke's law
(c) Sedimentation law
(d) None of the above
Ans: b

77. Continuity expression is principle of conservation of….

(a) mass
(b) energy
(c) momentum
(d) none of above
Ans: a

78. Capillarity is due to…..

(a) Adhesion
(b) Cohesion
(c) Adhesion and cohesion both
(d) Neither adhesion and cohesion
Ans: c

79. In open channel flow...

(a) Energy grade line coincides with the free surface
(b) Hydraulic grade lines coincide
(c) Hydraulic grade line can never rise
(d) Hydraulic grade line and free surface coincide
Ans: d

80. Flow net can be drawn…..

(a) For irrotational flow only
(b) For rotational flow only
(c) For both irrotational nor rotational flow
(d) For neither irrotational nor rotational flow
Ans: a

81. The D_{10} represents soil particle size in mm such that…..

(a) 10 % particles are finer than this size
(b) 10 % particle are coarser than this size
(c) 1/10th of particles are of extremely large size
(d) All particles are larger than 10 mm
Ans: a

82. Seepage pressure always acts in the…..

(a) opposite direction of flow
(b) direction of flow
(c) lateral direction to flow
(d) No specified direction.
Ans: b

83. Triangular classification is known as…….

(a) Particle size classification
(b) Textural classification
(c) HRB classification
(d) Unified soil classification
Ans: b

84. Seepage velocity is…..... discharge velocity.

(a) Less than
(b) More than
(c) Equal to
(d) Some times less and some times more than
Ans: b

85. For a uniformly graded soil uniformity coefficient. C, is nearly

(a) Two
(b) Three-pi
(c) Half
(d) Unity
Ans: d

86. The mass rainfall curve is drawn as a plot of

(a) Rainfall intensity vs time
(b) Accumulated rainfall intensity vs time
(c) Accumulated rainfall depth vs time in a chronological order
(d) Rainfall volume vs time
Ans: c

87. The infiltration index is the most commonly used method for determination of the

(a) Infiltration rate
(b) Cumulative infiltration volume
(c) Abstraction from precipitation
(d) Consumptive use
Ans: c

88. An example of partly submerged floats is
(a) A surface float
(b) A canister float 88
(c) A twin float
(d) None of these

Ans: c

89. Controls are laid out in a stream to create proper conditions of flow for measurement of

(a) The velocity of flow
(b) The cross-sectional area
(c) The stage of water level
(d) None of these
Ans: c

90. The time of translation of the flow from the most remote point of a drainage basin to its outlet is equal to that of

(a) Overland flow
(b) Lag time
(c) Rainfall duration
(d) Time of concentration
Ans: d

91. If the time of concentration is more than the rainfall duration, then the rational method will

(a) Calculate the runoff volume
(b) Calculate the runoff rate
(c) Calculate the peak runoff rate
(d) Not able to calculate the peak runoff rate
Ans:d

92. When the infiltrated rainwater moves parallel to the land surface in the soil medium and reappear on surface at certain other points, it is called the

(a) Surface flow
(b) Groundwater flow
(c) Subsurface flow
(d) Inter flow
Ans: d

93. The correctly predicted value by the Gumbel's method is likely to be located

(a) In between the limits of the confidence interval of calculated values
(b)Near the confidence limits of calculated values
(c) Near the measured value
(d) In none of the above
Ans:a

94. Base flow is separated from a

(a) Surface hydrograph
(b) Unit hydrograph
(c) Flood hydrograph
(d) Hyetograph
Ans:c

95. Channel routing is the computation of

(a) Changes in the shape of the outflow hydrograph when the flow has passed through a channel
(b) Changes in the shape of the inflow hydrograph while a flood wave passes through a channel downstream
(c) The quantity of storage in a channel
(d) Changes in the direction of outflow from the channel
Ans:b

96. Time-area histograms give the values for

(a) Runoff hydrograph from watersheds
(b) Volume of unit rainfall excess in a watershed
(c) Both (a) and (b)
(d) None of these
Ans:b

97. In India, the current rate of soil loss from agricultural lands is
(a) 12 t/ha/yr
(b) 7.5 t/ha/yr
(c) 20-30 t/ha/yr
(d) 80-100 t/ha/yr
Ans: c

98. The concepts of the theory of unit sediment graph are based on
(a) Watershed characteristics
(b) Unit hydrograph theory
(c) Rainfall-runoff relationships
(d) Sediment data taken by bottle samplers
Ans:b

99. The range of flow velocity in a grassed waterway with good quality cover is kept between
(a) .5 to 1.0 m/s
(b) 1.0 to 1.5 m/s
(c) 1.5 to 1.8 m/s
(d) 2.0 to 3.0 m/s
Ans:c

100. ……channel has the highest hydraulic radius.

(a) Triangular
(b) Parabolic
(c) Trapezoidal
(d) Flatter
Ans: a

101. A hydraulic structure is safe against sliding when the magnitude of

(a) Horizontal forces are more than the foundation friction resistance
(b) Horizontal forces are less than the foundation friction resistance
(c) Weight of structure is less than the uplift pressure
(d) All of the above is more than the uplift pressure
Ans:b

102. Terrace spacing is also expressed as

(a) Vertical interval
(b) Terrace width
(c) Vertical interval and terrace width combined together
(d) None of the above
Ans:a

103. Watershed management is

(a) Same as area development
(b) Development of economy of population in the watershed
(c) Development of land and water resources of the watershed
(d) Practice of conservation of soil
Ans:c

104. One of the major causes for mass landslides in forest watersheds is because of
(a) High plant density
(b) Too much of terracing
(c) Construction of roads
(d) Plantation of fruit crops,
Ans:c

105. The part of intercepted water, which is returned back to the atmosphere through evaporation, is called
(a) Interception loss
(b) Interception storage
(c) Through fall
(d) Stream flow

Ans:a

106. Small lumps of ice formed by alternate freezing and melting, when they are carried up and down in highly turbulent air are called as.....

(a) glaze
(b) snow
(c) hail
(d) sleet
Ans:c

107. The line joining all points in a basin of some key time elements in storm, such as beginning of precipitation are called as..... same

(a) isohyets
(b) contour
(c) isochrones
(d) none of these
Ans:c

108. The water year in India start from the first day of

(a) January
(b) April
(c) June
(d) September
Ans:c

109. pF of the soil is defined as the….

(a) logarithmic to the base 10 of the soil moisture tension
(b) logarithmic to the base 10 of atmospheric pressure
(c) pH of soil it self
(d) none of above
Ans:a

110. A self-recording rain gauge records

(a) hourly depth of rain
(b) snow melt
(c) cumulative depth of rainfall
(d) onset and occurrence of rainfall
Ans:c

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111. Isohyetal method gives accurate mean aerial depth of rainfall

(a) in a plain country
(b) in a gently sloping basin
(c) in an undulating country
(d) when the precipitation includes snowmelt
Ans:b

112. Areas of Thiessen polygon method are determined by the devices known as

(a) Planimeter
(b) Sextant
(c) Tachometer
(d) none of above
Ans:a

113. A flood wave with a known inflow hydrograph is routed through a large uncontrolled reservoir The outflow hydrograph will have

(a) attenuated peak with reduced time base
(b) attenuated peak with increase time base
(c) increased peak with increased time base
(d) increased peak with reduced time base
Ans:b

114. Transportation of soil particles through suspension is associated to

(a) finer particles
(b) high velocity flow
(c) steep slope
(d) higher flow depth
Ans:a

115. The ratio of K.E. of rain to KE of flowing water approaches infinity, when

(a) raindrop falls vertically on horizontal surface
(b) rain falls laterally on slopy land surface
(c) rain drop falls facing slope direction of land
(d) rainfalls with high velocity
Ans:a

116. Normally, gully erosion is considered to be insignificant, when its erosion intensity is
(a) less than 0.1 km/km²
(b) 0.1 km/km²
(c) more than 1.0 km/km²
(d) 5 km/km²

Ans:a

117. The formation of rill is more pronounced in

(a) slopy lands
(b) uniform level lands
(c) shorter slope length
(d) all above
Ans:a

118. Inter space between two gullies is found greater in case of

(a) U-shaped gully
(b) V-shaped gully
(c)U- shaped gully in hilly area
(d) V-shaped gully in plain lands
Ans:a

119. Contour cultivation is found difficult in the area dominated by

(a) V-shaped gullies
(b) U-shaped gullies
(c) V-shaped gullies with water flow
(d) U-shaped gullies without water flow
Ans:a

120. The purpose of cutoff walls in drop structure is to

(a) provide structural strength against sliding
(b) spill the flow safely
(c) dissipate K.E. of flow
(d) support gully walls
Ans:a

121. The suitable structure for reducing channel grade is

(a) drop spillway
(b) chute spillway
(c) drop inlet spillway
(d) culvert
Ans:a

122. Masonary spurs are located at the point, where
(a) sharp bend takes place
(b) immediate control is needed
(c) stream current is swift
(d) both a & b

Ans:a

123. In a stream which has no water flow in summer season, the recommended measure for bank erosion control is

(a) dry and rough stone packing
(b) stone revetment
(c) sodding or turfing
(d) spur
Ans:a

124. Wind velocity is less at

(a) ground surface
(b) 5 m height from ground
(c) 10 m height from ground surface
(d) 15 m height from ground surface
Ans:a

125. Maximum transportation of soil particles is carried out under

(a) saltation
(b) suspension
(c) surface creep
(d) tunneling
Ans:a

126. The particles of diameter greater than 0.84 mm are assumed to be

(a) non-erodible by wind
(b) erodible by wind
(c) colloidal
(d) none of above
Ans:a

127. Wind breaks are composed of
(a) maximum two rows of vegetative or non vegetative materials
(b) one row of vegetative materials
(c) two rows of non-vegetative materials
(d) one row of non-vegetative materials
Ans:a

128. A falling raindrop detaches the soil particles from ground surface, by its
(a) terminal velocity
(b) kinetic energy
(c) potential energy
(d) rainfall intensity

Ans:b

129. KE> 25 index method computes the rainfall erosivity factor, based on

(a) rainfall depth
(b) rainfall intensity
(c) direct run-off depth
(d) effective rainfall depth
Ans:b

130. The limitations used for LUCC is

(a) permanent
(b) temporary
(c) semi-permanent
(d) none of above
Ans:a

131. In LUCC, the lands falling under class V to VII are

(a) suitable for cultivation
(b) unsuitable for cultivation
(c) suitable for only wildlife conservation
(d) suitable for only grassland farming
Ans:b

132. Land use sub-class (w) indicates the lands, under the problem of

(a) erosion and run-off
(b) wetness and drainage
(c) shallow soil depth
(d) climatic limitations
Ans:b

133. In low rainfall areas, the primary purpose of contour cultivation is to

(a) conserve rainwater into the soil
(b) reduce soil loss
(c) reduce run-off
(d) increase crop yield
Ans:a

134. Width of buffer strip crops varies from
(a) 5 to 10 m
(b) 3 to 5 m
(c) 2 to 3 m
(d) 10 to 15 m

Ans:b

135. The ratio of soil loss occurred from a field under mulch to the soil loss occurred from a non-mulched field, is called as

(a) mulch factor
(b) form factor
(c) conservation practices factor
(d) support practices factor
Ans:a

136. The contour cultivation is most effective on slopes

(a) 15%
(b) from 3 to 8%
(c)10 to 15%
(d) 15 to 20%
Ans:b

137. Construction of bund is not recommended in

(a) deep black soils
(b) deep medium soils
(c) agricultural lands
(d) water-logged soils
Ans:a

138. The maximum permissible grade to be given in a graded bund is equal to

(a) 0.5%
(b) 0.1%
(c) 5%
(d) 1%
Ans:a

139. Generally, the earth work under construction of side bund and lateral bund is considered as

(a) 15% earth work of main bund
(b) 30% earth work of main bund
(c) equal to earth work of main bund
(d) equal to earth work of marginal bund
Ans:b

140. The channel capacity of graded bund in sandy soil is determined based on flow velocity

(a) less than 0.50 m/s
(b) more than 1 m/s
(c) 1.5 m/s
(d) from 2 to 3 m/s
Ans:a

141. Graded bunds are also called as

(a) diverson
(b) drainage type channel terrace
(c) graded terrace
(d) all above
Ans:d

142. For design of channel cross-section in graded bunds, the safe velocity of flow for sandy soil is considered as

(a) 0.50 m/s
(b) 1.50 m/s
(c) 2.0 m/s
(d) 1.75 m/s
Ans:a

143. If slope length of a field is doubled, then increase in soil loss is about

(a) 1.4 times of original rate
(b) 2 times of original rate
(c) 2.5 times of original rate
(d) 4 times of original rate
Ans:a

144. The bench terraces sloping outwards are also known as
(a) orchard type bench terraces
(b) hill type bench terraces
(c) paddy terraces
(d) both a & b
Ans:a

145. Batter slope in bench terraces is mainly provided for
(a) stability to the fill materials
(b) moisture retention
(c) controlling sloughing
(d) none of above
Ans:a

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146. The recommended land slope for construction of graded broad base terrace is

(a) 3 to 10%
(b) 1 to 2%
(c) 12 to 15%
(d) 17 to 30%
Ans:a

146. The maximum length of broad base terrace varies from

(a) 400 to 500 m
(b) 100 to 150 m
(c) 200 to 300 m
(d) 500 to 1000 m
Ans:a

147. The natural grassed waterways are generally found in the shape of

(a) trapezoidal
(b) triangular
(c) parabolic
(d) rectangular
Ans:c

148. The grass cover in grassed water way should always be kept

(a) tall
(b) short
(c) vigorous
(d) partially covered
Ans:b

149. In gullied areas, the diversion should be constructed on gully head at a distance of about

(a) 150 m
(b)3 times the height of overfall in gully
(c) 75 m
(d) 50 to 100 m
Ans:b

150. The amount of eroded soil mass from watershed that joins to the fluvial system is called as

(a) total soil loss
(b) sediment yield
(c) u/s soil erosion
(d) none of above
Ans:b

151. Terminal velocity of rainfall varies with

(a) rainfall intensity
(b) rainfall duration
(c) its direction
(d) none of above
Ans:a

152. Soil Erodibility factor (K) of USLE is related to the

(a) soil permeability
(b) soil slope
(c) soil weight
(d) run-off rate
Ans:a

153. The effect of topography on soil loss is accounted by

(a) factor-K
(b) factor-R
(c) factor-LS
(d) factor-C
Ans:c

154. Practical limit of slope length varies upto

(a) 400 feet
(b) 150 feet
(c) 1000 feet
(d) 250 feet
Ans:a

155. Maximum soil loss from a barren field without any conservation measure is given by
(a) A = RKLS
(b) A = RK
(c) A = RKLSCP
(d) A = RKCP

Ans:a

156. On steep sloping lands, intensive farming is possible only with

(a) contour cultivation
(b) strip cropping
(c) bench terracing
(d) bunding
Ans:c

157. In USLE, the deposition of soil particles during soil erosion is incorporated in factor

(a)C and P
(b) L and S
(c) R and K
(d) K
Ans:a

158. On an average, the soil detachment in resistant soil is about

(a) 0.6 t/ha
(b) 1.5 t/ha
(c) 2 tha
(d) 0.2 t/ha
Ans:a

159. In grassland farming the main crops are

(a) hay and grass silage
(b) Maize and Berseem
(c) Jowar and Berseem
(d) none of above
Ans:a

160. Grazing incidence is also known as

(a) grazing intensity
(b) overgrazing
(c) grassland degradation
(d) grassland destruction
Ans:a

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161. The maximum depth of water that can be harvested by semi-circular hoop, is equal to

(a) 100 cm
(b) the height of embankment
(c) 125 cm
(d) 75 cm
Ans:b

162. The trapezoidal bunds constructed for short term run-off harvesting, are in the shape of

(a) trapezoids
(b) parabola
(c) triangular
(d) none of above
Ans:a

163. For a good design of water harvesting structure, the storage or spread area for water collection should be

(a) 10 ha
(b) 1/8 to 1/5 of catchment area
(c) 25 to 50% of catchment area
(d) 20% of catchment area
Ans:b

164. The percolation dams for water harvesting are constructed at

(a) gully bed with depression
(b) gully head
(c) any point in the watershed
(d) depressed point in the watershed
Ans:b

165. For construction of dugout farm pond, the permissible limit of seepage loss is

(a) 1 m. depth per annum
(b) 20% of total capacity
(c) 2 cm/day
(d) 3 cm depth per day
Ans:a

166. A best site for pond construction is

(a) narrow valley with steep sides
(b) a clay formation
(c) a depressed part with pervious layer below
(d) all above
Ans:a

167. The major loss of water from water storage structure is due to

(a) seepage
(b) evaporation
(c) deep percolation
(d) evapo-transpiration
Ans:a

168. A phreatic line in earthen dam represents the flow line with

(a) negative atmospheric pressure
(b) positive atmospheric pressure
(c) 10 kg/cm²
(d) zero atmospheric pressure
Ans:d

169. The provision of mechanical spillway in farm pond is essential when catchment area of pond is

(a) more than 12 ha
(b) 5 ha
(c) 10 ha
(d) 7 ha
Ans:a

170. The drop structures used in farm ponds are also called as

(a) surplus weir
(b) spur
(c) check dams
(d) culvert
Ans:a

171. The susceptibility of burrowing in embankment section can be discouraged by providing
(a) a thick layer of sand or gravel
(b) rock pitching
(c) vegetative cover
(d) fencing

Ans:a

172. For constructing earth dam, the compaction of fill is not required in the method of

(a) roll fill
(b) hydraulic fill
(c) dumping the soil
(d) rock filling
Ans:b

173. The common materials used for constructing the diaphragm are the

(a) clay, stone, rocks etc.
(b) sand and silt
(c) gravel and sand
(d) sand, silt and clay
Ans:a

174. The difference in elevation between top of dam and the maximum reservoir level is called as

(a) minimum free board
(b) maximum free board
(c) normal free board
(d) critical free board
Ans:a

175. An earth material with D_{85} greater than 25 mm is good for construction of

(a) foundation of earth dam
(b) core wall
(c) horizontal drain
(d) diaphragm
Ans:b

176. In earth fill dam, the filters are provided for the purpose of

(a) u/s drainage
(b) d/s drainage
(c) erosion control
(d) piping control
Ans:b

177. The hydraulic failure due to wave action takes place, towards

(a) d/s side of dam
(b) u/s side of dam
(c) top of dam
(d) foundation of dam

Ans:a

178. During full reservoir condition, the failure of d/s side of earth dam by producing a small slump, is the example of

(a) sloughing
(b) gullying
(c) overtopping
(d) all above
Ans:a

179. Laplace equation used for seepage analysis is valid for

(a) isotropic soil
(b) anisotropic soil
(c) sandy soil
(d) clay soil
Ans:a

180. Direction of seepage line is always perpendicular to

(a) equipotential line
(b) streamline
(c) isobath
(d) isobar
Ans:a

181. In earth fill dam, the discharge face is associated to

(a) u/s side of dam
(b) d/s side of dam
(c) top of dam
(d) foundation of dam
Ans:b

182. The protection of d/s slope of earth dam against rainfall and sheet flow,is performed by use of

(a) berms
(b) concrete slab
(c) rock pitching
(d) chimney drain
Ans:a

183. For making the hydraulic structure safe against tensile stress, the value of ecentricity (e) should always be

(a) equal to b/6
(b) less than b/6
(c) more than b/6
(d) 1
Ans:b

184. To make the cantilever type retaining wall safe against sliding, key is provided at its

(a) base
(b) heel
(c) stem
(d) top
Ans:a

185. The base width of cantilever type retaining wall varies from

(a) 0.5 H to 0.7 H
(b) 1.5 to 1.75 m
(c) 1 to 1.5 m
(d) 0.75 to 1.0 m

(H is total height of r.wall)
Ans:a

186. Sloping inward terrace is applicable in areas of

(a)Deep soils
(b)Shallow soils
(c)Both (a) and (b)
(d) None of the above
Ans:a

187. The manning's coefficient of grassed waterways varies

(a) 0.01 -0.02
(b) 0.02 - 0.04
(c)0.03 -0.05
(d) Less than 0.01
Ans:b

188. Under normal conditions which is used

(a)AMC-I
(b) AMC - II
(c)AMC-III
(d)All of the above
Ans:b

189. Middle third rule is safeguarding against

(a) Sliding
(b)Overturning
(c)Crushing
(d) Shearing
Ans:a

190. The Froude number of steady flow in permanent structure is

(a) 1-1.7
(b)1.7-2.5
(c) 2.5-4.5
(d)4.5-9
Ans:d

191. Hill type bench terrace is used for which type of soil

(a)Deep
(b)Shallow
(c)Medium
(d)None of the above
Ans:a

192. Location of permanent gully control structure is decided on the basis of

(a) Gully depth
(b)Gully width
(c) Gully bed slope
(d)All of the above
Ans:c

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193. Berms are provided, when

(a) Embankment height exceeds 15 m
(b)Embankment height exceeds 10 m
(c)Embankment height exceeds 20 m
(d)All of the above
Ans:b

194. Chute spillway is suitable in

(a)Low slope
(b)Steep slope
(c)Moderate slope
(d)None of the above
Ans:b

195. Effective rainfall refers to

(a) Rainfall which percolates into groundwater
(b) Total amount of rainfall
(c)Amount of rainfall used by the plants
(d) Amount left in the field after runoff
Ans:c

196. The wedge storage in a river reach during the passage of a flood wave is

(a) Positive during rising phase
(b) Negative during rising phase
(c)Positive during falling phase
(d) Constant
Ans:a

197. In India, one rain gauge station is for every

(a)520 km^2
(b) 690 km^2
(c)260 km^2
(d) 130 km^2
Ans:a

198. The drainage density of any catchment varies inversely with

(a)Area of the basin
(b) Drainage frequency
(c)Length of basin

(d) None of the above
Ans:a

199. Rill erosion is also known as

(a) Gully erosion
(b)Micro channel erosion
(c) Micro erosion
(d)Path erosion
Ans:b

200. Rill erosion usually begins in the

(a) Lower part of land slope
(b) Upper part of land slope
(c)Middle of land slope
(d)Entire length of land slope
Ans:a
