Program: BE CIVIL Engineering

Curriculum Scheme: Revised 2016

Examination: Fourth Year Semester VII

Course Code: CEC 703 and Course Name: Water Resources Engineering-II

Time: 1 hour Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1.  | In a concrete gravity dam, with a sloping upstream face, the resisting force is provided by the: |
| Option A: |  weight of the dam |
| Option B: |  weight of the water supported on the upstream slope. |
| Option C: |  weight of dam + weight of water supported on the upstream slope |
| Option D:  | uplift pressure |
|  |  |
| Q2. | Transverse joints in -concrete gravity dams are the: |
| Option A: |  horizontal construction joints at each lift height |
| Option B: | vertical construction joints of full height and width |
| Option C: | diagonal construction joints for torsion |
| Option D: | vertical construction joints for torsion |
|  |  |
| Q3. | In an arch dam, the 'extrodos curves' refer to the arch rings corresponding to the: |
| Option A: |  upstream face of the dam |
| Option B: |  downstream face of the dam |
| Option C: |  upstream of the axis of dam |
| Option D: |  downstream of the axis of the dam |
|  |  |
| Q4. | Tension cracks in the dam may sometimes lead to the failure of the structure by? |
| Option A: |  Sliding of the dam at the cracked section |
| Option B: |  Overturning about the toe |
| Option C: |  Crushing of concrete starting from the toe |
| Option D: |  Both overturning and crushing |
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| Q5. | For usual values of permissible compressive stress and specific gravity of concrete, a high concrete gravity is the one whose height exceeds \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: |  48 m |
| Option B: |  70 m |
| Option C: |  88 m |
| Option D:  |  98 m |
|  |  |
| Q6. | Piping through dam and its foundation is which type of failure pattern? |
| Option A: |  Structural failures |
| Option B: |  Seepage failures |
| Option C: |  Hydraulic failures  |
| Option D:  |  Failure due to tension |
|  |  |
| Q7.  | The most preferred type of an earthen dam section is the one, in which the: |
| Option A: |  entire embankment is made of one type of soil |
| Option B: |  inner embankment is made of highly porous soil, surrounded by the outer shell of highly impervious soil, both separated by transition filter material of mediocre permeability |
| Option C: |  inner embankment is made of highly impervious soil surrounded by the outer shell of highly pervious soil, both separated by transition filter material of mediocre permeability |
| Option D:  |  embankment material doesn’t make any difference to the strength of dam |
|  |  |
| Q8.  | A phreatic line in seepage analysis of earth dam is defined as the line on which pressure is \_\_\_\_\_\_ |
| Option A: |  equal to the atmosphere |
| Option B: |  greater than atmosphere |
| Option C: |  lower than atmosphere |
| Option D:  |  varying |
|  |  |
| Q9. | The height of rock toe, in earth dam is generally kept in between  |
| Option A: |  5 to 10% of reservoir head |
| Option B: |  40 to 50% of reservoir head |
| Option C: |  30 to 40% of reservoir head |
| Option D:  |  10 to 25% of reservoir head |
|  |  |
| Q10.  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are used only for very minor reservoir works. |
| Option A: |  Radial gates |
| Option B: |  Stop logs and needles |
| Option C: |  Bear trap gates |
| Option D:  |  Drum gates |
|  |  |
| Q11.  | The spillway which can be called as an overflow spillway is essentially \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: |  an ogee spillway |
| Option B: |  a shaft spillway |
| Option C: |  a chute spillway |
| Option D:  |  a syphon spillway |
|  |  |
| Q12.  | A sloping apron is provided partly above the river bed and partly below the river bed in the case when |
| Option A: |  TWC coincides with the JHC at all discharges |
| Option B: |  TWC lies above the JHC at all discharges |
| Option C: |  TWC lies below the JHC at all discharges |
| Option D: |  TWC lies above the JHC at low discharges and below the JHC at high discharges |
|  |  |
| Q13. | Standard USBR stilling basin-II is useful for energy dissipation at the bottom of the overflow structure, if the approaching Froude number is  |
| Option A: |  Less than 4.5 |
| Option B: |  More than 4.5 |
| Option C: |  Less than 2.5 |
| Option D:  |  More than 2.5 |
|  |  |
| Q14.  | In stilling basin, the kinetic energy causes |
| Option A: |  First turbulence and ultimately lost in water |
| Option B: |  Heating and evaporation |
| Option C: |  First turbulence and ultimately lost as heat |
| Option D:  |  Hydraulic pressure |
|  |  |
| Q15. | What is the effect of silting in channels? |
| Option A: |  Reduced Discharge Capacity of Channel |
| Option B: |  Causes Loss of Command |
| Option C: |  Breaching of Canal Banks |
| Option D:  |  Failure of Irrigation Structures |
|  |  |
| Q16.  | Based on his research what factor is given by Kennedy for free silting and scouring actions in a channel? |
| Option A: |  Critical Velocity (Vo) |
| Option B: |  Bed Slope of Channel |
| Option C: |  Hydraulic Mean Depth |
| Option D:  |  Rugosity Coefficient |
|  |  |
| Q17. | What is the problem in India for artificial channels? |
| Option A: |  Formation of Depressions |
| Option B: |  Formation of Alluvial Soil |
| Option C: |  Untimely Rains |
| Option D: |  Improper Usage of Channels |
|  |  |
| Q18. | On flatlands what type of canal alignment is used? |
| Option A: |  Side Slope Canal |
| Option B: |  Contour Canal |
| Option C: |  Watershed Canal |
| Option D:  |  Field Channel |
|  |  |
| Q19.  | The canal, which can irrigate only on one side, is a |
| Option A: |  watershed canal |
| Option B: |  contour canal |
| Option C: |  Side sloppe canal |
| Option D:  |  power canal |
|  |  |
| Q20. | The discharge carried by minor distributory is usually less than  |
| Option A: |  0.5 cumec |
| Option B: |  1 cumec |
| Option C: |  0.25 cumec |
| Option D: |  3 cumec |
|  |  |
| Q21. | Which one of the followings, is not a remedial measure for water logging? |
| Option A: |  good drainage for irrigated land |
| Option B: |  conjunctive use of water in the basin |
| Option C: |  Lining of canals and water courses |
| Option D:  |  contour bunding |
|  |  |
| Q22.  | In a siphon aqueduct, the worst condition of uplift on the floor occurs when \_\_\_\_\_\_\_\_ |
| Option A: |  the canal is full and the drainage empty with the water table at drainage bed |
| Option B: |  the canal and drainage are flowing full |
| Option C: |  the canal is empty and the drainage full with the water table at drainage bed |
| Option D:  |  the canal is full and the drainage empty with water table below the floor |
|  |  |
| Q23. | Point out the choice among the following, which is not a function of a distributary head regulator : |
| Option A: | it serves as a meter for measuring discharge in the off-taking canal |
| Option B: | it serves to control silt entry into the off-taking canal |
| Option C: | it helps in controlling and regulating supplies in the entire downstream canal network. |
| Option D:  | it helps in controlling supplies in the off-taking canal. |
|  |  |
| Q24.  | The drainage water is sometimes allowed to join the canal water to augment canal supplies, through a hydraulic structure, called a: |
| Option A: | canal outlet |
| Option B: | canal inlet |
| Option C: | module |
| Option D:  | level crossing. |
|  |  |
| Q25. |  In foundation slide failure\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Option A: |  top of embankment gets cracked and lower slope moves outward forming large mud waves near the heel |
| Option B: |  top of embankment gets cracked and lower slope moves inward forming large mud waves near the heel |
| Option C: |  bottom of embankment gets cracked and lower slope moves outward forming large mud waves near the heel |
| Option D:  |  bottom of embankment gets cracked and lower slope moves inward forming large mud waves near the heel |