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 |
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| 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 |
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| 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 |
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| 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 |
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| 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 |