

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

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

Q1.	The general value of lift for concrete is taken as _____
Option A:	1.5 m
Option B:	2.5 m
Option C:	3 m
Option D:	4 m
Q2.	Shear key is several times provided between the bottom of a masonry or concrete gravity dam and its foundation, to increase the frictional resistance of the dam against sliding. This key is usually provided:
Option A:	near the toe
Option B:	near the heel
Option C:	near the individual seams in the bed rock
Option D:	near the base
Q3.	Which failure occurs when the net horizontal force above any plane in the dam or at the base of the dam exceeds the frictional resistance developed at that level?
Option A:	Overturning
Option B:	Crushing
Option C:	Sliding
Option D:	By development of tension
Q4.	Which of the following criteria has to be satisfied for no tension at any point on a gravity dam?
Option A:	The resultant of all the forces must always pass through the mid-point of the base of the dam
Option B:	The resultant force for all conditions of loading must pass through the middle third of the base
Option C:	The resultant of all the forces must pass through the upstream extremity of the middle third of the base
Option D:	The resultant of all the forces must pass through the downstream extremity of the middle third of the base
Q5.	Presence of tail-water in a gravity dam _____
Option A:	increases the principal stress and decreases the shear stress

Option B:	increases both the principal stress and the shear stress
Option C:	decreases the principal stress and increases the shear stress
Option D:	decreases both the principal stress and the shear stress
Q6.	The top width of the dam depends upon
Option A:	Construction material
Option B:	Height of structure
Option C:	Roadway
Option D:	Base width
Q7.	During the construction of an earthen dam by hydraulic fill method, development of pore pressures become important in the:
Option A:	central impervious core
Option B:	pervious outer shell
Option C:	impervious outer shell
Option D:	central pervious shell
Q8.	During seepage through an earthen mass, the direction of seepage is _____ to the equipotential lines.
Option A:	Perpendicular
Option B:	Parallel
Option C:	not defined
Option D:	diagonal
Q9.	The upstream face of the earth dam is considered as _____
Option A:	equipotential line
Option B:	streamline
Option C:	streak line
Option D:	path line
Q10.	A rock toe and a horizontal filter is provided on the downstream base of an earthen dam in order to _____
Option A:	prevent piping action in the dam body
Option B:	prevent piping action in the dam foundation
Option C:	reduce the seepage quantity by blocking its flow
Option D:	collect and drain out the seepage flow
Q11.	If the head of the water over the spillway is less than the design head, then _____
Option A:	the pressure on the crest will be zero
Option B:	the pressure on the crest will be negative causing cavitation
Option C:	the discharge coefficient of the spillway is increased
Option D:	the discharge coefficient of the spillway will be reduced
Q12.	According to US Army Corps, the u/s profile of ogee spillway extends up to _____

Option A:	$x = 1.27 Hd$
Option B:	$x = -1.27 Hd$
Option C:	$x = 0.431 Hd$
Option D:	$x = -0.431 Hd$
Q13.	The _____ spillway gate coincides with the crest line when lowered and cannot be seen from a distance.
Option A:	Sliding gate
Option B:	Roller gate
Option C:	Tainter gate
Option D:	USBR drum gate
Q14.	In radial gates, the radius of the gate is
Option A:	Distance between the trunnion pins and inside face of skin plate.
Option B:	Distance between the trunnion pins and outside face of skin plate.
Option C:	Distance between the stiffener and anchor.
Option D:	Distance between yoke girder and trunnion.
Q15.	In Lacey's silt theory, the wetted perimeter P of a stable channel is proportional to: (where Q is the discharge)
Option A:	Q
Option B:	$Q^{0.5}$
Option C:	Q^2
Option D:	$Q^{1.5}$
Q16.	The critical velocity ratio was introduced in Kennedy's equation of critical velocity to take into account the effect of:
Option A:	channel cross-section
Option B:	climatic conditions
Option C:	silt grade
Option D:	roughness of bed.
Q17.	What vital factor is not considered in regime theories during the design of regime channels?
Option A:	Velocity of Flow in the Channel
Option B:	Type of Flow in the Channel
Option C:	Quantity of Sediment entering a channel
Option D:	Area in which the Channel flows
Q18.	Which type of canal does not need cross drainage structures?
Option A:	Side Slope Canal
Option B:	Contour Canal
Option C:	Watershed Canal
Option D:	Field Channel
Q19.	A ridge canal is also called as

Option A:	watershed canal
Option B:	contour canal
Option C:	Side sloppe canal
Option D:	field canal
Q20.	Which one of the following statements is not true about cement concrete lining ?
Option A:	that it develops frequent cracks due to temperature changes
Option B:	that it develops frequent cracks due to settlement of subgrade
Option C:	that it is likely to be damaged by alkaline water
Option D:	that it can be easily punctured by weed growth
Q21.	A Super passage is the reverse of _____
Option A:	syphon
Option B:	aqueduct
Option C:	inlets and outlets
Option D:	syphon Aqueduct
Q22.	Canal outlets are also called:
Option A:	canal escapes
Option B:	canal modules
Option C:	canal offtakes
Option D:	canal openings
Q23.	Cross-drainage work is called a siphon, when it carries the canal water:
Option A:	below the drainage under pressure
Option B:	below the drainage at atmospheric pressure
Option C:	above the drainage at atmospheric pressure
Option D:	above the drainage under pressure
Q24.	The ratio of head recovered (output) to the head put in (input) is known as
Option A:	Modular Limit
Option B:	Minimum Modular Head
Option C:	Efficiency of an Outlet
Option D:	Drowning Ratio
Q25.	The most preferred soil for the central impervious core of a zoned embankment type of an earthen dam, is
Option A:	highly impervious clay
Option B:	highly pervious gravel
Option C:	coarse sand
Option D:	clay mixed with fine sand.