5th Sem / Branch : Civil Engg., Brick Tech, Constr.Mgmt
Subject:- Irrigation Engg. And Drg.

Time : 4Hrs.   M.M. : 150

SECTION-A

Note: Multiple choice questions. All questions are compulsory   (10x1=10)

Q.1   In a mildly water scarce area the drip irrigation could be preferred for growing
    a)   Wheat   b)   Fodder
    c)   Rice   d)   Fruits and Vegetables

Q.2   The first important watering of crops is usually called
    a)   Paleo watering
    b)   Kor-watering
    c)   Crop watering
    d)   All of the above

Q.3   The canal which is not supposed to do any irrigation is called:
    a)   Main canal   b)   Water course
    c)   Major distributory   d)   Minor distributory

Q.4   The cross section of natural slit transporting channels tend to have the shape of
    a)   Trapezium   b)   Semi-ellipse
    c)   Semi circle   d)   None of the above

Q.5   The free board in lined canal is measured between
    a)   FSL and top of lining
    b)   FSL and top of canal bank
    c)   Top of lining and top of canal bank
    d)   None of them

Q.6   The alkali salt which is most injurious to plant growth is
    a)   Sodium carbonate
    b)   Sodium chloride
    c)   Sodium sulphate
    d)   Sodium nitrate

Q.7   Multiple arch dam is an example of
    a)   Arch Dams   b)   Buttress Dam
    c)   Shell Arch Dams   d)   All of the above

Q.8   The method of irrigation used for orchards is
    a)   Free flooding   b)   Border flooding
    c)   Check flooding   d)   Basin flooding

Q.9   The energy dissipation in the sarda type canal drop is caused by
    a)   Hydraulic jump   b)   Water pool
    c)   Friction blocks   d)   Baffle wall

Q.10   Due to water logging the salinity of soil will
    a)   Increase   b)   Decrease
    c)   Remain same   d)   Both a and b

SECTION-B

Note: Objective type questions. All questions are compulsory.   (10x1=10)

Q.11   Delta is equal to.........................
Q.12   IMD stands for.......................
Q.13   ....is also known as trickle irrigation
Q.14   A canal which is aligned to the contour of the area is known as.......................
Q.15   Wells help in minimizing the..................
Q.16   Overflow spillways are also known as..................
Q.17   Diversion headworks control the entry of.................. Particles into the canal.
Q.18   In case of super passage, canal flows..............the drainage.
Q.19   A canal escape is sort of.................
Q.20   Seepage drains...................chances of water logging

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Define irrigation. What is necessity of irrigation?

Q.22 Determine the delta of crop, having duty as 432 Heactares/cumec on the field and 45 days base period.

Q.23 Define intensity of rainfall, runoff and cathcment area.

Q.24 Explain the sprinkler's irrigation method.

Q.25 Explain the phenomenon of sediment transport.

Q.26 Explain any type of tubewell.

Q.27 Write down the causes of failure of earthen dam.

Q.28 Differentiate between silt extractor and silt excluder.

Q.29 What are the factors considered while selection of a suitable type of cross-drainage work?

Q.30 Define regulator and function of a regulator in case of canals.

Q.31 How you will classify the alluvial rivers?

Q.32 What are the causes of waterlogging?

Q.33 Give causes of failures of wires and their remedies.

Q.34 Compare tubewell and canal irrigation.

Q.35 What are energy dissipaters and why these are provided?

Q.36 What are groynes or spurs? Describe impermeable and permeable spurs with their relevant features.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.37 Explain the various causes of failures of earthen dam.

Q.38 What is sub surface irrigation? Explain advantages of sub-surface irrigation.

Q.39 What are the factors affecting duty of canal?

SECTION-E

Note: Long answer type questions. Attempt any two questions out of three questions. (2x25=50)

Q.40 Draw the cross section of a channel when the NSL is below the bed level
Bed width = 3.00m
Free board=500mm
Full supply depth =0.60m
Slope in filling =1.5:1
Hydraulic gradient=1:4
use other data as per standard proportions

Q.41 Draw X-section of a zoned dam(or embankment). Use the following data. Assume suitable data, if needed.
Top width =5.00m
U/S slope=3:1
D/S slope=2:1
Bed R.L.=200.00
Height of dam=21.00m
Clay core filling in zone 2, base width of clay core=10.00

Q.42 Draw the cross section of a strainer well showing all the component.