Q 1) Terzaghi's basic differential equation for one dimensional consolidation of clayey soils is

a) $\frac{\partial \overline{u}}{\partial t} = C_v \frac{\partial \overline{u}}{\partial z}$

b) $\frac{\partial \overline{u}}{\partial z} = C_v \frac{\partial^2 \overline{u}}{\partial t^2}$

c) $\frac{\partial^2 \overline{u}}{\partial t^2} = C_v \frac{\partial \overline{u}}{\partial z}$

d) $\frac{\partial \overline{u}}{\partial t} = C_v \frac{\partial^2 \overline{u}}{\partial_Z^2}$

Q 2) For better strength and stability the fine grained soils and coarse grained soils are compacted respectively as

a) Dry of OMC and wet of OMC

b) Wet of OMC and dry of OMC

c) Wet of OMC and wet of OMC

d) Dry of OMC and dry of OMC

Q 3) In an unconfined compression test on a clay specimen of initial volume V and length L, the area of cross-section at failure is taken as

a) $\frac{V}{L-\Delta L}$

b) $\frac{V+\Delta V}{L-\Delta L}$

c) $\frac{V-\Delta V}{L-\Delta L}$

d) $\frac{V}{L+\Delta L}$

Q 4) In a triaxial compression test on a soil specimen, the intermediate principal stress is equal to

a) Major principal stress

b) Minor principal stress

c) Difference between major and minor principal stresses

d) None of the above

Q 5) In the triaxial compression test, the application of additional axial stress (i.e.

deviator stress) on the soil specimen produces shear stress on

a) Horizontal plane only

b) Vertical plane only

c) Both horizontal and vertical planes

d) All planes except horizontal and vertical planes

Q 6) In a triaxial compression test when drainage is allowed during the first stage (i.e application of cell pressure) only and not during the second stage (i.e application of deviator stress at constant cell pressure), the test is known as

a) Consolidated drained test

b) Consolidated undrained test

c) Unconsolidated drained test

d) Unconsolidated undrained test

Q 7) Sensitivity of a soil can be defined as

a) Percentage of volume change of soil under saturated condition

b) Ratio of compressive strength of unconfined undisturbed soil to that of soil in a remolded state

c) Ratio of volume of voids to volume of solids

d) None of the above

Q 8) Coefficient of earth pressure at rest is

a) Less than active earth pressure but greater than passive earth pressure

b) Greater than active earth pressure but less than passive earth pressure

c) Greater than both the active earth pressure and passive earth pressure

d) Less than both the active and passive earth pressures

Q 9) For a base failure, the depth factor D^f is

a) Zero

b) 1

c) $0 < D^f < 1$

d) $D^f > 1$

Q 10) According to terzaghi's theory the ultimate bearing capacity at ground surface for a purely cohesive soil and for a smooth base of a strip footing is where C = unit cohesion of soil

a) 2.57 C

b) 5.14 C

c) 5.7 C

d) 6.2 C

Q 11) Heading bond is usually used for
(DSSSB JE 2105/BIHAR SSC JE 2016)

a) Half brick wall

b) One Brick wall

c) Two Brick Wall One and half brick wall

d)

Q 12) When cement and line are used in definite proportion as binding material mortar is Known as?
(DMRC JE 2017 3rd Shift)

a) Light weight mortar

b) Fire resistant mortar

c) Gauged mortar

d) Water resistant mortar

Q 13) The pressure acting on the stones in stone masonary construction should be:
(UPJAL NIGAM Je 2016, IST Shift)

a) Along the direction of bedding places

b) At 45 to the direction of bedding places

c) At 60 to the direction of bedding places

d) Perpendicular to the direction of bedding

Q 14) Complete dislocation of plastered surface, resulting in formation of a patch is knownas:-
(UKPSC AE Paper II 2013)

a) Peeling

b) Cracking

c) Popping

d) Crazing

Q 15) Which type of door is suitable for continuous heavy rush of traffic persists?
(MP Sub Engineer 09-07-2017 2nd meeting)

a) Flush door

b) Wire gauge door

c) None of the above

d) Revolving door

Q 16) _____, support the masonary in opening of doors and windows.
or
_____, is a beam that supports the brick work over opening of door, window and passage.

a) Lintels

b) Purlins

c) Girder

d) Rafters

Q 17) For the construction of domes:
(UPPCL JE 2016)

a) Heavier stones are preferred

b) Lighter stones are preferred

c) Stones are not preferred

d) Both lightier and heavier stones are perferred

Q 18) Which of the following is done in case of building new york underneath the existing structure without disturbing its stability?
(MP VYPAM 08-07-2017 2nd meeting)

a) Shoring

b) Underpinning

c) Flying shores

d) Scaffolding

Q 19) An element used to retain or prevent the out of plane deformation of plates is referred as:

a) Strut

b) Stiffener

c) Purlin

d) Raft

Q 20) _____ is housed in the splayed shoulders of king post truss.

a) King post and tie beam

b) Heel strap and a tie beam

c) Principal rafter and their heads

d) Principal rafter and tie beam

Q 21) The conjunctive use of water in a basin means.
(UKPSC A E Paper II 2013)

a) Combined use of water for irrigation and hydropower generation

b) Use of water by farmer's cooperative depth of drain below the ground surface

c) Use of water for irrigation both rabi and kharif crops

d) Combined use of surface and ground water reaources

Q 22) The moisture content of the soil, after free drainage has removed most of the gravity water, is called
(Uttrakhand Paper II JE 2015)

a) Available moisture

b) Saturation capacity

c) Filed capacity

d) Gravity water

Q 23) For a standing crop, the consumptive use of water is equal to the depth of water
(U.K Combined AE Paper II 2012)

a) Evaported by the crop

b) Transpired by the crop

c) Evapotranspiration by the crop

d) Evapotranspiration by the crop and quantity of water evaporated form adjacent soil

Q 24) Duty of canal water will be less if
(U.K Combined State AE Paper II 2017)

a) Area irrigated is more

b) Water supply required is less

c) Water supply required is more

d) None of these

Q 25) The Ratio of the quantity of water stored in the root zone of the crops to the quantity of water actually delivered in the field is known as:
(H.P. SSC 2015)

a) Water conveyance efficiency

b) Water application efficiency

c) Water use efficiency

d) None of the above

Q 26) Soil erosion can be prevented by:
(RRB JE Chennal Red Paper 2014)

a) Grazing

b) Deep ploughing

c) Planting trees

d) increasing bird pollution

Q 27) Which of the following statement is incorrect with respect to waterlogging?
(MP Sub. Eng. 9-7-2017)

a) Intensive irrigation should be adopted in areas suscesptible of waterlogging

b) Intensive irrigation should be avoided in area susceptible to waterlogging

c) None of the above

d) Lift irrigation increases waterlogging

Q 28) Which of the following does not contribute of water logging
(U.K Paper II 2015)

a) inadeuate drainage

b) Excessive tapping of water

c) Seepage form unlined canals

d) Frequent flooding

Q 29) In the Design of hydraulic structures in alluvial rivers, the equation used to calculate the normal depth of scour 'R' for a discharge intensity 'q' per m width is
(U.K Combined AE Paper I 2012)

a) $R - 4.75\ q^{1/2}$

b) $R - 1.35\ (q/f)^{2/3}$

c) $R - 1.35\ (q^2/f)^{2/3}$

d) $R - 1.2\ (q^2/g)^{1/3}$

Q 30) Lacey's regime velocity i proportional to where, R-hydraulic radius in m s-slope:

a) R- $4.75\ q^{1/2}$

b) R-$1.35\ (q/f)^{2/3}$

c) R-$1.35(q^2/f)^{2/3}$

d) R-$1.2\ (q^2//g)^{1/3}$