

Nepal Engineering Council Registration Examination
Model Question for Agricultural Engineering (AAgE)

(100*1 = 100)

1. Modulus of elasticity is the stress when applied in a member will double the length due to
 - a) change in length = original length
 - b) change in length = twice of original length
 - c) final length = original length
 - d) final length = half of original length
2. Profound lumps of cement in a bag shall be confirmed instantly before its use by
 - a) consistency test
 - b) soundness test
 - c) freshness test
 - d) setting time test
3. Non-load bearing (e.g. compound wall) is generally constructed using stones in
 - a) ashlar fashion
 - b) coursed rubble
 - c) uncoursed rubble
 - d) chamfered ashlar
4. A body will appear mirror image with respect to
 - a) elastic neutral axis
 - b) plastic neutral axis
 - c) axis of symmetry
 - d) neutral axis and axis of symmetry
5. If a topographic map is prepared with 5m contour interval, then index contour is generally shown at
 - a) every 5th contour
 - b) every 3rd contour
 - c) every 10th contour
 - d) every 7th contour
6. Valuation of a currently running Bhat Bhateni supermarket shall be carried out more precisely by..... methods of valuation
 - a) plinth area
 - b) capitalized worth

- c) depreciated
 - d) development
7. Which of the following property of soil is known for index property
- a) size of particle
 - b) shape of particle
 - c) thixotropy
 - d) shape and size of particle
8. Compaction and consolidation are different because of
- a) intensity of load applied
 - b) equipment used for loading purpose
 - c) expulsion of either air particle or water particle
 - d) either reduction of void ratio or increasing density of soil
9. A pure sand has its shear strength due to
- a) ϕ
 - b) C
 - c) C and ϕ
 - d) void ratio of sand
10. For construction of bridge pier, precise soil test shall be carried out by taking sample through
- a) digging a pit
 - b) direct shear test
 - c) sand piling
 - d) standard split spoon sample
11. Shallow foundation is different from deep foundation in many aspects, one of the prominent aspects is
- a) it has low depth
 - b) it has wider width
 - c) worker can enter purposefully
 - d) only used in building construction
12. One of the greatest merits of raft foundation is
- a) easier to construct than deep foundation
 - b) stronger than deep foundation
 - c) avoids unequal settlements
 - d) avoids unnecessary costs for soil tests

13. A liquid of specific gravity 0.8 is heavier than water by -----
- a) 1.0
 - b) 0.8 m
 - c) 0.4 m
 - d) 1.6 m
14. Working principle of hydraulic lift is based on
- a) Bernoulli's principle
 - b) Archimedes' principle
 - c) Pascal's Law
 - d) Newton's Law
15. Bernoulli's equation is derived from
- a) Kepler
 - b) Laplace
 - c) Euler
 - d) Poisson
16. Moody's diagram for estimating head loss was originally developed for
- a) Circular pipes
 - b) Rectangular pipes
 - c) Trapezoidal pipes
 - d) Semi-circular pipes
17. If the flow parameters remain constant at any section along the flow at a particular instant of time, then flow is known asflow
- a) steady
 - b) unsteady
 - c) uniform
 - d) nonuniform
18. The instrument used for measuring evaporation is
- a) hygrometer
 - b) evaporimeter
 - c) lysimeter
 - d) luxmeter
19. Which of the following type of irrigation method uses artificial rain-like system to irrigate the land?
- a) sprinkler irrigation method
 - b) furrow irrigation method

- c) drip irrigation method
d) border irrigation method
20. If Q and f are the discharge and silt factors, respectively, which of the following is the correct formula for the velocity?
- a) $(\frac{Q}{140f^2})^{1/6}$
b) $(\frac{Qf^2}{140})^{1/6}$
c) $(\frac{Qf^2}{140})^{1/5}$
d) $(\frac{Qf^2}{160})^{1/6}$
21. Subsurface drain removes.....water.
- a) Gravitational Water
b) Hygroscopic Water
c) Capillary water
d) Capillary and hygroscopic water
22. Which of the following canal alignment encounters maximum number of cross-drainage works?
- a) contour canal
b) side slope canal
c) detour canal
d) ridge canal
23. Ring irrigation approach is categorized under.....irrigation method.
- a) Contour
b) Border
c) Furrow
d) Check Basin
24. As per the mechanical principle of operation, reciprocating pumps are categorized under which of the following types?
- a) turbine pumps
b) displacement Pumps
c) centrifugal Pumps
d) propeller Pumps
25. Power available from bullocks is related to its body weight is
- a) About 10% of body weight
b) About 20% of body weight
c) About 30% of body weight
d) About 50% of body weight
26. The approximate proportion of the air-fuel in a diesel engine is
- a) 10:1

- b) 20:1
 - c) 15:1
 - d) 5:1
27. What is the disc Angle of a disc plow generally?
- a) 10°
 - b) 20°
 - c) 30°
 - d) 45°
28. The broken grain received from main outlet of thresher is due to
- a) Less concave clearance
 - b) Low speed of drum
 - c) More concave clearance
 - d) Small size of drum
29. The most commonly used pump in tractor hydraulic system is
- a) Centrifugal pump
 - b) Reciprocating pump
 - c) Gear pump
 - d) Jet pump
30. Which of the following is the correct formula of shear stress encountered in the shaft for torsion?
- a) $\tau = k_s \frac{16}{\pi} \frac{T}{d^3}$
 - b) $\tau = k_s \frac{8}{\pi} \frac{T}{d^3}$
 - c) $\tau = k_f \frac{32}{\pi} \frac{T}{d^3}$
 - d) $\tau = k_s \frac{32}{\pi} \frac{T}{d^3}$
31. What is the recommended maximum limit for deflection in reinforced concrete slabs?
- a) L/180
 - b) L/240
 - c) L/360
 - d) L/480
32. What is the recommended minimum thickness of a two-way slab?
- a) 100 mm
 - b) 125 mm
 - c) 150 mm
 - d) 175 mm
33. What is the function of a farm residence?
- a) To provide shelter for farm animals
 - b) To provide a place for farm workers to live
 - c) To serve as a storage area for farm equipment
 - d) To provide living quarters for the farmer and their family

34. The purpose of a farm fence is
- a) to provide shade for crops
 - b) to prevent soil erosion
 - c) to control pests and diseases
 - d) to keep animals in or out of a certain area
35. Which of the following members can resist axial compression?
- a) strut
 - b) tie
 - c) beam
 - d) cable
36. According to national building code (NBC) 202:2015, maximum unsupported length of long wall between cross walls shall be limited to
- a) 4.0 m
 - b) 4.5 m
 - c) 5.0 m
 - d) 5.5 m
37. The most popular method of potato planting is
- a) Dibbling
 - b) Broadcasting
 - c) Throwing
 - d) Ridge & furrow method
38. Which of the following is the unit of soil's electrical conductivity?
- a) dS/m
 - b) poise/m
 - c) ohm/m
 - d) ds/m²
39. Which method is used for the estimation of Phosphorus in soil?
- a) Olsen
 - b) Jackson
 - c) Bray
 - d) Walkley and Black
40. The average annual soil loss does not depend on
- a) Rainfall Erosivity
 - b) Soil Erodibility
 - c) Crop Management
 - d) Soil's Moisture Content
41. Where check dams are constructed?
- a) drainage lines and Gullies

- b) canal
 - c) river
 - d) ponds and Lakes
42. Which of the following is not a measure for Soil Conservation?
- a) strip cropping
 - b) terrace Cultivation
 - c) shelter belts
 - d) overdraw of ground Water
43. In a vapor compression system, the highest temperature during the cycle occurs after
- a) compression
 - b) evaporation
 - c) condensation
 - d) expansion
44. Which of the following is not an example of an engineering property of bio-materials?
- a) moisture content
 - b) density
 - c) sugar content
 - d) rheological properties
45. Which of the following is a common post-harvest treatment used for grains?
- a) blanching
 - b) fermentation
 - c) freezing
 - d) drying
46. Which of the following is the common expelling process used for oil seed?
- a) abrasive expelling
 - b) roller expelling
 - c) screw pressing
 - d) gravity separation
47. The process of reducing the milk fat globules size of allow them to stay evenly distributed in milk is called as
- a) standardization
 - b) pasteurization
 - c) homogenization
 - d) fortification
48. Which of the following is the main purpose of sterilization?
- a) Killing of Bacteria
 - b) Maintaining of Nutrient Value
 - c) Destroying pathogenic organism
 - d) Retain Good flavor

49. What is the ideal temperature range for the operation of a biogas plant where maximum biogas can be produced?
- a) 0-10°C
 - b) 10-20°C
 - c) 35-50°C
 - d) 30-35°C
50. What is a by-product of gasification?
- a) water
 - b) ash
 - c) carbon dioxide
 - d) oxygen
51. Which of the following is not a factor of Road's Horizontal alignment Design?
- a) design speed
 - b) horizontal curve
 - c) setback distance
 - d) road gradient
52. What is the yield of a rapid gravity filter as compared to that of slow sand filter?
- [Options]
- a) 10 times
 - b) 15 times
 - c) 20 times
 - d) 30 times
53. Which of the following is a key element of sustainable rural development in Nepal?
- a) encouraging migration to urban areas
 - b) increasing dependence on external aid
 - c) strengthening local institutions and governance
 - d) promoting large-scale commercial agriculture
54. Which of the following protocol is related to addressing the issue of global warming by reducing greenhouse gas (GHG) emissions?
- a) Kyoto Protocol
 - b) Montreal Protocol
 - c) UNFCCC Protocol
 - d) IPCC Protocol
55. Standard dimensions (mm x mm) of A3 drawing sheet is
- a) 11.69×16.54
 - b) 29.7×42
 - c) 297×420
 - d) 420×280

56. Which of the following methods of charging depreciation of an asset has increased amount of depreciation as the age of asset increases
- a) sum-of-year digit
 - b) sinking fund
 - c) diminishing balance
 - d) straight line
57. The process of optimizing the project's limited resources without extending the project duration is known as
- a) project crashing
 - b) resource levelling
 - c) resource smoothing
 - d) networking
58. The process of composing/raising the required fund from different sources such as equity, preferred stock, bond and debenture is known as
- a) capital structure planning
 - b) project financing
 - c) capital budgeting decision
 - d) deducing earning per share
59. In which of the following society, people used to seek their existence on growing plants for their cattle and domestic animals
- a) pastoral society
 - b) tribal society
 - c) horticultural society
 - d) agricultural society
60. According to Nepal Engineering Council Act, 2055 (Revised, 2079), all engineering academic institutions shall be in the Council.
- a) affiliated
 - b) united
 - c) recognized
 - d) associated
61. Profound lumps of cement in a bag shall be confirmed before its use, which can be instantly done by
- a) Consistency test
 - b) Soundness test
 - c) Freshness test
 - d) Setting time test

62. Axis about which a body will appear as mirror image is known for
 - a) Elastic neutral axis
 - b) Plastic neutral axis
 - c) Axis of symmetry
 - d) Neutral axis and axis of symmetry
63. Which of the following property of soil is known for index property
 - a) Size of particle
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 - d) Shape and size of particle
64. Shallow foundation is different from deep foundation in many folds, out of which one of the prominent reasons is
 - a) It has low depth
 - b) It has wider width
 - c) Within which worker shall enter purposefully
 - d) Only used in building constructions
65. Working principle of hydraulic lift is based on
 - a) Bernoulli's principle
 - b) Archimede's principle
 - c) Pascal's Law
 - d) Newton's Law
66. Velocity of flow through a channel having depth of 1.2 m and specific energy equal to 1.24m
 - a) 0.8 m/sec
 - b) 0.9 m/sec
 - c) 0.6 m/sec
 - d) 0.7 m/sec
67. A Vertical sleeve support can have total number of induced reactions of
 - a) 1
 - b) 2
 - c) 3
 - d) 4
68. National building code (NBC) Of Nepal has been Initially developed by Department of Urban Development and Building Construction under the Ministry of Physical Planning and Workers of Nepal with the help of (UNDP/UNCHP (Habitat) in
 - a) 1994
 - b) 1995
 - c) 1996
 - d) 1997
69. Which of the statement is most appropriate
 - a) Beam is designed in compression and checked for shear.
 - b) Beam is designed in shear and checked in bending.
 - c) Beam is designed for bending and checking for shear
 - d) Beam is designed for bending and checked for torsion

70. The Impermeable layer soil below the ground that neither contain nor transmit water is called as
- a) Aquifer
 - b) Aquiclude
 - c) Aquifuge
 - d) Aquitard
71. The design discharge of lateral sewers in Nepal are taken as times average discharges.
- a) 1.8
 - b) 2 to 4
 - c) 2 to 5
 - d) 1.4
72. Classifying the canals based on alignment criteria, identify the canal in which the number of cross drainage work is maximum?
- a) Contour canal
 - b) Side slope canal
 - c) Detour canal
 - d) Ridge canal
73. The canal structure provided over a Seti River in Pokhara (Dr. K I Singh Pool) is known as
- a) Syphon
 - b) Aqueduct
 - c) Ditches
 - d) Super passage
74. Under what strata the tile drainage should be placed?
- a) In shallow depths
 - b) More pervious strata
 - c) Less pervious strata
 - d) Pervious strata
75. Which principle is used in Hydraulic Turbines?
- a) Braggs Law
 - b) Pascal's Law
 - c) Faraday Law
 - d) Newton's second Law
76. Which of the following methods of charging depreciation of an asset has increased amount of depreciation as the age of asset increases
- a) Sum-of-year digit
 - b) Sinking fund
 - c) Diminishing balance
 - d) Straight line
77. In which of the following society people used to seek their existence on growing plants for their cattle and domestic animals
- a) Pastoral society
 - b) Tribal society

- c) Horticultural society
 - d) Agriculture society
78. According to NEC Act (Revised), the number of executive members in a council body is
- a) 25
 - b) 21
 - c) 18
 - d) 15
79. The depth of a trapezoidal section is 2m, based width of 3m and has a side slope of 1H:2V. Manning coefficient 'n' if the bed slope is 1 in 100
- a) 0.012
 - b) 0.013
 - c) 0.014
 - d) 0.015
80. Name of the first chairman of NEC
- a) Dr. Padam Bahadur Sahi
 - b) Bindeshwor Yadhav
 - c) Ram Bahadur Sharma
 - d) Dr. Jagdishchandra Pokharel
81. Which of the following is a good fire-resistant stone?
- a) Clay
 - b) Granite
 - c) Quartz
 - d) Limestone
82. Which of the following is not a segment of Global Positioning System?
- a) User Segment
 - b) Independent Segment
 - c) Space Segment
 - d) Control Segment
83. _____ index is used to find settlement of soil.
- a) Compression
 - b) Expansion
 - c) Recompression
 - d) Reloading
84. Rise of water table in cohesionless soils upto ground surface reduces the net ultimate bearing capacity approximately by
- a) 25%
 - b) 50%
 - c) 75%
 - d) 90%
85. The common method planting in semi-arid areas for row crop is
- a) Flat planting
 - b) Ridge planting
 - c) Furrow planting

- d) Semi-arid planting
86. Mould board plough works on the principle of
- a) Friction
 - b) Scouring
 - c) Sliding
 - d) Suction
87. A vertical plate that is used to control depth and adjust line of pull in plough is
- a) Vertical Suction
 - b) Horizontal Suction
 - c) Vertical clevis
 - d) Horizontal clevis
88. What is the field irrigation requirement (FIR)?
- a) Amount of water required to meet the field irrigation requirements plus water lost in conveyance through the canal system
 - b) The water required to meet the evaporation needs of a crop
 - c) Amount of water required to delivered at the field to meet evapotranspiration and leaching needs
 - d) Amount of water required to meet the net irrigation requirements plus water lost due to surface runoff and percolation
89. What is the time interval between the sowing and harvesting of crops?
- a) Base period
 - b) Kor period
 - c) Crop period
 - d) Season period
90. An RCC column is treated as long if its slenderness ratio is greater than
- a) 30
 - b) 35
 - c) 40
 - d) 50
91. What is the horsepower transmitted by the belt passing over a pulley of 1 m in diameter and running at 500 rpm. The tensions in two slides of the belt are 50 kg. and 25 kg. respectively.
- a) 8.72
 - b) 2.77
 - c) 39.25
 - d) 7.46
92. Red soil results from the watershed material of
- a) Igneous rock
 - b) Sedimentary rock
 - c) Metamorphic rock

- d) Limestone
93. Which of the following is NOT a method of soil conservation?
- a) Intercropping
 - b) Mulching
 - c) Contour ploughing
 - d) Weathering
94. Which provides energy very slowly?
- a) Carbohydrates
 - b) Fats
 - c) Proteins
 - d) Fibers
95. Statement 1: When sugar is added to water, water does not or negligibly expands.
Statement 2: Jams do not expand on solidifying.
- a) True, False
 - b) True, True
 - c) False, False
 - d) False, True
96. In global warming the temperature of
- a) Troposphere increase
 - b) Ionosphere increase
 - c) Mesosphere increase
 - d) Stratosphere increase
97. The velocity required to operate wind mill is more than:
- a) 5 kmph
 - b) 10kmph
 - c) 5 miles per hour
 - d) 10 miles per hour
98. Bench terracing is also called as
- a) Staircase farming
 - b) Hill farming
 - c) Contour farming
 - d) Erosion control farming
99. Constant speed engine is used in
- a) Tractor
 - b) Power tiller
 - c) Motor car
 - d) Electric generator

100. 100mm of rainfall over a catchment area of 1km^2 represents the volume of water equal to:

- a) 10^5 m^3
- b) 10^4 m^3
- c) 10^5 cumec
- d) 10^4 cumec