MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

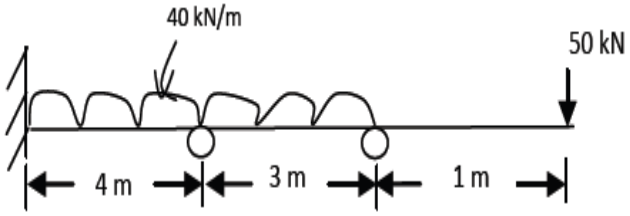
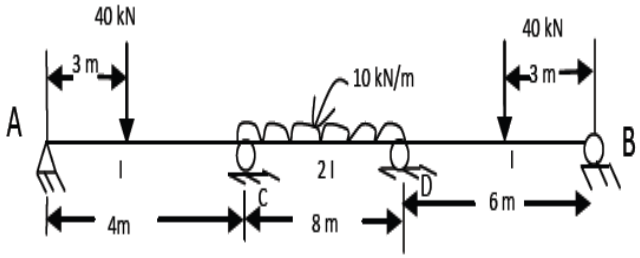
B.Tech– III-IISem (MR 15-2016-17 Admitted Students)
I Mid Examination Subjective Question Bank

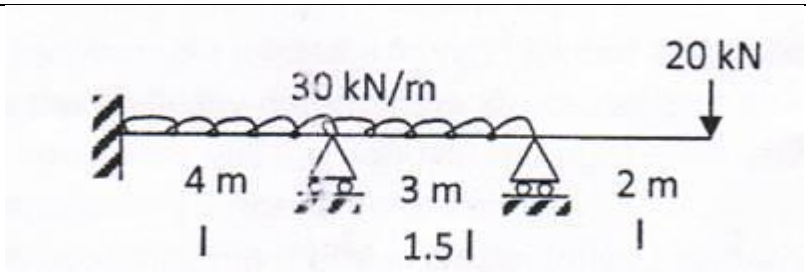
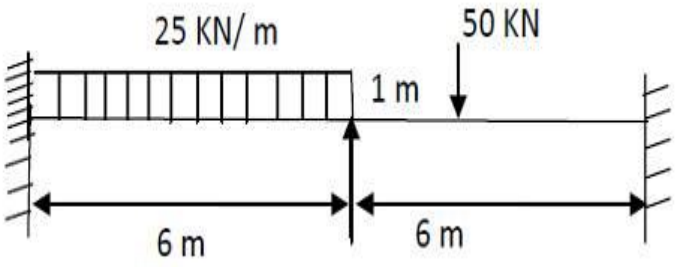
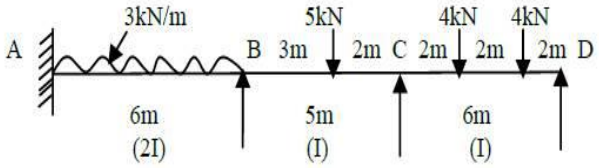
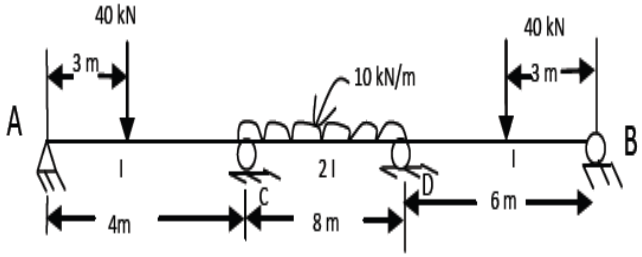
Subject: Advanced Structural Analysis, Branch: Civil
Name of the faculty: Dr.V.L.S Banu, Dr.M.V.Jagannatha Kumar

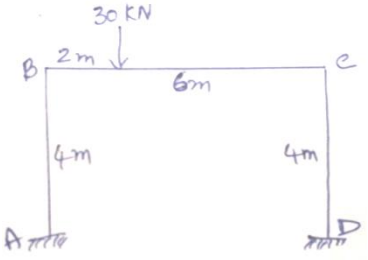
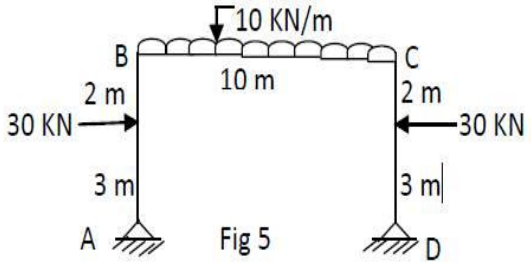
Instructions:

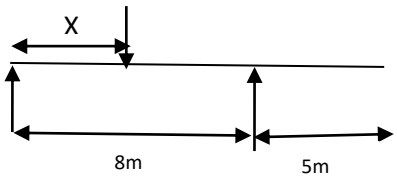
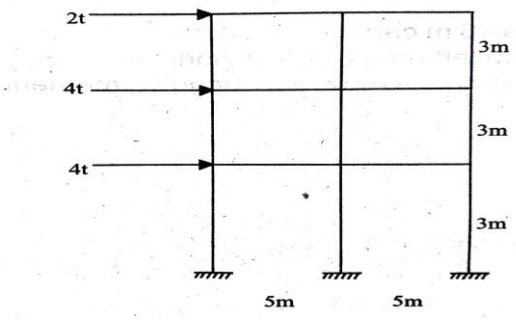
1. All the questions carry equal marks

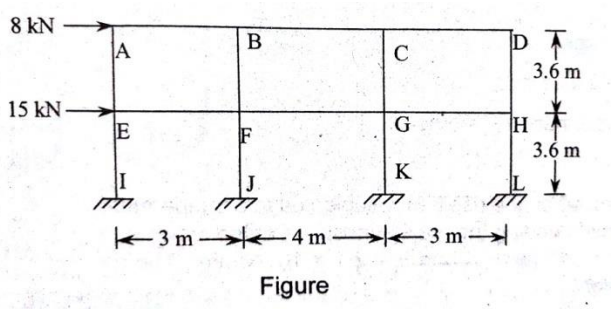
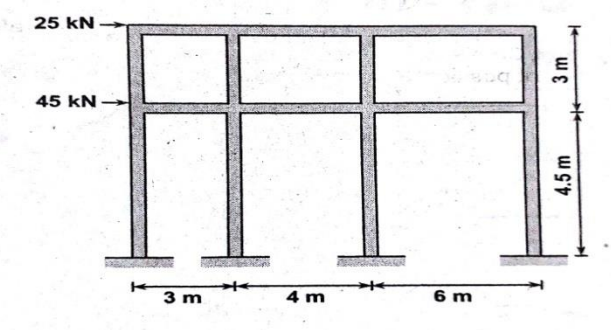
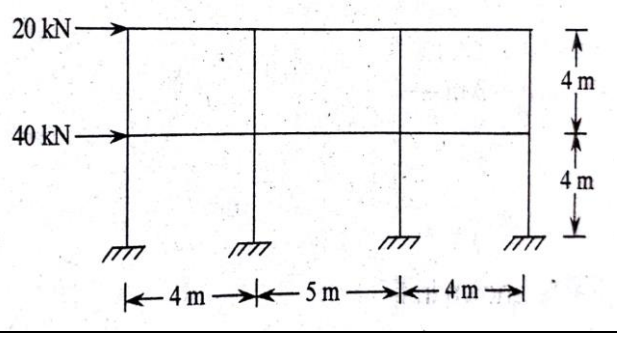
2. Answer all the questions

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Analyse the beam shown in figure using Kani's method. The relative value of EI is constant for all the spans. Draw the Bending moment diagram. 	Analyse	1
	OR		
2.	Analyse the beam shown in the figure using kani's method. Draw BMD. 	Analyse	1
3.	Analyse the beam shown in the figure using kani's method. Draw BMD.	Analyse	1

			
OR			
4.	Analyse using Kani's method and draw the Bending moment diagram. 	Analyse	1
5.	Analyse the continuous beam if the support B sinks by 10mm and draw the BMD. 	Analyse	1
OR			
6.	Analyse the continuous beam if the support C sinks by 10mm and draw the BMD 	Analyse	1

7.	Analyse the frame given below and draw the bending moment diagram. Take EI constant for all the members. 	Analyse	1
	OR		
8.	 Fig 5 Analyse the frame and draw the BMD.	Analyse	1
Module II			
1.	A single rolling load of 100KN moves on a girder of span 20m. (a) Construct the influence lines for (i) SF and (ii) B.M for a section 5mfrom left support. (b) Construct the influence lines for points at which the absolute maximum shears and absolute maximum B.M develop.	Evaluate	2
	OR		
2.	A single moving load of 200KN moves on a simply supported beam of span 30m. (a) Construct the influence lines for (i) SF and (ii) B.M for a section 10m from left support. (b) Construct the influence lines for points at which the absolute maximum shears and absolute maximum B.M develop.	Evaluate	2
3.	Draw the influence line diagram for SF and BM for a section of 5m from left hand support of a simply supported beam, 20 m long. Hence, calculate the maximum bending moment and SF at a section, due to UDL of 8m length and intensity of 10kN/m run.	Evaluate	2
	OR		
4.	Draw the influence line diagram for SF and BM for a section of 10 m from left hand support of a simply supported beam, 30 m long. Hence, calculate the maximum bending moment and SF at a section, due to UDL of 8m length and intensity of 15kN/m run.	Evaluate	2

5.	Two wheel loads of 16 and 8 kN, at a fixed distance apart of 2 m, cross a beam of 10 m span. Draw the IL for BM and SF for appoint 4 m from left support, and find the maximum BM and SF at that point.	Evaluate	2
	OR		
6.	Three wheel loads of 16, 10 and 8 kN, at a fixed distance apart of 2 m, cross a beam of 10 m span. Draw the IL for BM and SF for appoint 3 m from left support, and find the maximum BM and SF at that point.	Evaluate	2
7.	A single point load of 20 kN moves on a cantilever beam of span 10 m. Draw the IL diagram for SF and BM at a section 3m from left support. 	Applying	2
	OR		
8.	In the figure given below the left side support is A and the right side support is B and a unit load is moving from A to B. Draw IL for a) Reaction at A b) Reaction at B c) BM at 5m from A 	Applying	2
Module III			
1.	Analyse the frame shown in figure, using portal method 	Analyse	3
	OR		

2.	Analyse the frame shown in figure, using portal method  Figure	Analyse	3
3.	Analyse the frame shown in figure, using portal method  	Analyse	3
	OR		
4.	Analyse the frame shown in figure, using portal method  	Analyse	3

Signature of the Faculty **Signature of the HoD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.Tech II Semester I Mid Question Bank

Subject: Advanced Structural Analysis Branch: CIVIL

Name of the Faculty: Dr.V.L.S Banu, Dr.M.V.Jaganadha Kumar

Unit 1

1 A building bent deflects in the way same as

A) Cantilever beam
B) Fixed beam
C) Truss system
D) Portal frame

2 What the relation between shear carried by interior and exterior column of a bent?

A) Interior is double of exterior
B) Exterior is double of interior
C) Both carry same shear
D) Depends on magnitude of load carried

3 How many assumptions are made in the portal method?

A) 1
B) 2
C) 3
D) 4

4 Portal method is more suitable for building having

A) High elevation
B) Low elevation
C) Medium elevation
D) Elevation dont matter

5 Portal frames are frequently used in buildings to

A) Transfer vertical forces
B) Transfer moment
C) Transfer horizontal forces
D) It is used to transfer horizontal force applied at top of frame to foundation

6 Which of the following supports are not used in portal?

A) Fixed
B) Pin
C) Partial
D) Roller

7 What is the degree of indeterminacy of a pin supported portal frame .

A) 1
B) 2
C) 3
D) 4

8 What is the degree of indeterminacy of a fixed supported portal frames .

A) 1
B) 2
C) 3
D) 4

9 The point of contra flexure in all the members lies at

A) One end
B) At supports
C) Mid point
D) Half of the support

10 How many steps involved in analysis of portal frame.

A) 3
B) 2
C) 5
D) 4

11 If no. of reaction components are more than the condition equation the structure is

A) Portal frame method
B) Cantilever method
C) Factor method
D) All the above

12 Force in any column is proportional to the distance of centre of gravity is known as

A) Portal frame method
B) Cantilever method
C) Factor method
D) All the method

13 Cantilever method is applicable to the structures of

A) High rise
B) Low rise
C) Medium
D) All the above

14 The point of contraflexure lies at the mid span of

A) Column
B) Beam
C) Both A & B
D) None

15 The point of contraflexure lies at mid height of

A) Column
B) Beam
C) Both a & b
D) None

16 Cantilever method is based upon same action as a long cantilever beam subjected to a

A) Transverse load
B) Axial load
C) Moment
D) No load

17 How does axial stress vary from neutral axis

A) Parabolically
B) Hyperbolically
C) Linearly
D) Arbitrarily

18 If in a rigid jointed space frame, $(6m + r) < 6j$, then the frame is

A) Unstable
B) Stable and statically determinate
C) Stable and statically indeterminate
D) None of the above

19 Total how many equations will be generated?

A) 1
B) 2
C) 3
D) 4

20 The point of contraflexure is the point where

A) BM changes sign
B) BM is maximum
C) BM is minimum
D) SF is zero

21 Where is point of inflection located in top girder in a pin supported portal frame?

A) At one of the ends
B) At both ends
C) At centre of beam
D) Inflection point is not present

22 In which case trussed portals preferred over simple portals?

A) When they are used to span small distances
B) When they are used to span large distances
C) When they are used to span small loads
D) When they are used to span heavy loads

23 In which case trussed portals preferred over simple portals?

A) When they are used to span small distances
B) When they are used to span large distances
C) When they are used to span small loads
D) When they are used to span heavy loads

24 If the structure is unstable then

A) m>2j-r
B) m<2j-r
C) m=2j-r
D) m=0

25 How many assumptions are applicable in cantilever method

A) 3
B) 2
C) 4
D) 5

26 A building bent deflects in the way same as a

A) Cantilever beam
B) Fixed beam
C) Truss system
D) Portal frame

27 What the relation between shear carried by interior and exterior columns of a bent?

A) Interior is double of exterior
B) Exterior is double of interior
C) Both carry same shear
D) Depends upon magnitude of load carried

28 How many assumptions are made in portal method for analyzing fixed-supported building?

A) 1
B) 2
C) 3
D) 4

29 Portal method is more suitable for building having

A) High elevation
B) Low elevation
C) Medium elevation
D) Elevation don't matter

30 A simply supported beam carries a varying load from zero at one end and w at the other end. If the length of the beam is a, the shear force will be zero at a distance x from least loaded point where x i

A) a/2
B) a/3
C) a/√3
D) a√3/2

31 Where is inflection point in girder assumed in building fames while using portal method?

A) At one of the end points
B) At both of the end points
C) At centre of each girder
D) No point is assumed

32 Cantilever method is based upon same action as a long cantilever beam subjected to a

A) Transverse load
B) Axial load
C) Moment
D) No load

33 Axial force in column

A) Tensile
B) Compressive

C) Compressive and uniaxial bending
D) Compressive and biaxial bending

34 How does axial stress vary from neutral axis?

A) Parabolically
B) Hyperbolically
C) Linearly
D) Arbitrarily.

35 At any point of a beam, the section modulus may be obtained by dividing the moment of inertia of the section by

A) Depth of the section
B) Depth of the neutral axis
C) Maximum tensile stress at the section
D) Maximum compressive stresses at the section

36 How many assumptions are made in cantilever method for solving a building frame?

A) 1
B) 2
C) 3
D) 4

37 Where does neutral axis of column lie?

A) Vertical plane
B) Horizontal plane
C) Both of them
D) Neither of them

38 If in a pin-jointed plane frame (m + r) > 2j, then the frame is (Where 'm' is number of members, 'r' is reaction components and 'j' is number of joints)

A) Stable and statically determinate
B) Stable and statically indeterminate
C) Unstable
D) None of the above

39 If in a rigid-jointed space frame, (6m + r) < 6j, then the frame is

A) Unstable
B) Stable and statically determinate
C) Stable and statically indeterminate
D) None of the above

40 The three moments equation is applicable only when

A) The beam is prismatic
B) There is no settlement of supports
C) There is no discontinuity such as hinges within the span
D) The spans are equal

41 The number of independent equations to be satisfied for static equilibrium of a plane structure is

A) 1
B) 2
C) 3
D) 6

42 If there are m unknown member forces, r unknown reaction components and j number of joints, then the degree of static indeterminacy of a pin-jointed plane frame is given by

A) $m + r + 2j$
B) $m - r + 2j$
C) $m + r - 2j$
D) $m + r - 3j$

43 Number of unknown internal forces in each member of a rigid jointed plane frame is

A) 1
B) 2
C) 3
D) 6

44 Degree of static indeterminacy of a rigid jointed plane frame having 15 members, 3 reaction components and 14 joints is

A) 2
B) 6
C) 3
D) 8

45 Degree of kinematic indeterminacy of a pin-jointed plane frame is given by

A) $2j – r$
B) $j – 2r$
C) $3j - r$
D) $2j + r$

46 Independent displacement components at each joint of a rigid jointed plane frame are

A) Three linear movements
B) Two linear movement and one rotation
C) One linear movement and two rotations
D) Three rotations

47 A pin jointed plane frame is unstable if (where m is number of members, r is reaction components and j is number of joints)

A) $(m + r) < 2j$
B) $(m + r) = 2j$
C) $(3m + r) = 3j$
D) $(m + r) > 2j$

48 The number of independent equations to be satisfied for static equilibrium in a space structure is

A) 2
B) 3
C) 4
D) 6

49 The degree of static indeterminacy of a rigid jointed space frame is

A) $m + r – 2j$
B) $m + r – 3j$
C) $3m + r – 6j$
D) $6m + r – 6j$

50 If in a rigid jointed space frame, $(6m + r) < 6j$, then the frame is

A) Unstable
B) Stable and statically determinate
C) Stable and statically indeterminate
D) None of the above

51 The following methods are used for structural analysis:

i) Macaulay method ii) Column analogy method iii) Kani's method iv) Method of sections

A) i and ii
B) i and iii
C) ii and iii
D) ii, iii and iv

52 The distribution factor of a member at a joint is

A) The ratio of the moment borne by the member to the total moment applied at the joint
B) The ratio of the area of the member to the sum of the areas of several members

C) The ratio of the moment induced at the far end to the moment applied at the near end
D) None of the above

53 Kani's 'Rotation Contribution' method is advantageous over Moment distribution method since

A) Kani's method is iterative
B) Any arithmetic error that creeps in will automatically get corrected
C) It involves actual solution of simultaneous equations
D) None of the above

54 Sway calculations and non-sway calculations are carried out in a single operation in

A) Kani's method
B) Moment distribution method
C) Unit load method
D) none

55 If the preliminary dimensions of the sections are changed relatively, the analysis can be modified fast in

A) Moment distribution method
B) Kani's method
C) Double integration method
D) Consistent deformation method

56 When an end of continuous beam is fixed, in Kani's method, the rotation contribution will be:

A) 0
B) EI/l
C) 2EI/l
D) EI

57 In Kani's method an overhand can be conveniently dealt with be regarding it as a member with _____ length

A) Infinite
B) zero
C) unit
D) none

58 In Kani's method, the displacement contribution of a member with a sway of δ is

A) EI δ
B) 6EIδ/l 2
C) 4EIδ/l
D) 3EI/l

59 Kani's Method was introduced by

A) Gasper Kani

B) G.A. Maney
C) Hardy Cross
D) none

60 Rotation factor is defined as

A) 0.5DF
B) 0.25DF
C) -0.5DF
D) -0.25DF

61 The distribution factor of a member at a joint is

A) The ration of the moment borne by the member to the total moment applied at the joint
B) The ration of the area of the member to the sum of the areas of several members
C) The ratio of the moment induced at the far end to the moment applied at the near end
D) none of the above

62 A beam is completely analysed, when

A) Support reactions are determined
B) Shear and moment diagrams are found
C) The moment of inertia is uniform throughout the length
D) All of the above

63 A rigid frame is a structure composed of members which are connected by

A) Rigid joints
B) simple bearing
C) a single rivet
D) none of the above

64 Consider the following statements [ ] Sinking of an intermediate support of a continuous beam

i.Reduces the negative moment at a support

ii. Increases the negative moment at a support

iii. Reduces the positive moment at a support

iv. Increases the positive moment at the centre of span Of these statements, which are correct

A) 1 and 4
B) 1 and 3
C) 2 and 3
D) 2 and 4

65 For the application of moment area method, for finding deflection at a section in a

A) The position of at least one tangent to the elastic curve, should be known

B) The M/EI diagram must be a triangle
C) The beam must be of uniform moment of inertia
D) The B.M. diagram if known is sufficient

66 Which of the following is not the displacement method

A) Equilibrium method
B) Moment Distribution method
C) Column analogy method
D) Kani's method

67 Which of the following methods of structural analysis is a Force method

A) Slope deflection method
B) Moment Distribution method
C) Column analogy method
D) Kani's method

68 The force required for a spring produced by unit displacement is called'

A) Flexibility
B) stiffness
C) torsional
D) none

69 In the displacement method of structural analysis the basic unknowns are

A) Displacement
B) force
C) displacement & Force
D) none of the above

70. The analysis of multistoried frames are done by

A) slope deflection method
B) moment distribution method
C) Kani's method
D) none

71 Rotation factor for fixed ended beam is calculated by kani's method is

A) $0.5\ K/\sum K$
B) $-0.4\ K/\sum K$
C) $-0.3\ K/\sum K$
D) None

72 Fixed end moment from A to B for beam AB carries eccentric load is

A) W a2 b/l2
B) W a b2 / l2
C) W a b/l
D) none

73 Displacement factor for fixed ended beam is calculated by kani's method is

A) -1.5 k/∑k
B) -1.4 k/∑k
C) -1.3 k/∑k
D) none

74 In portion AB, the free moment diagram is a symmetric triangle with maximum ordinate as

A) WL2 /12
B) WL/8
C) WL/4
D) WL/3

75 In portion BC, the free moment diagram is a symmetric parabola with maximum ordinate as

A) WL2 /8
B) WL/8
C) WL/4
D) WL/3

76 The maximum bending moment for a simply supported beam with a moving udl longer than the span at a distance x

A) $W(l-x)^2/2l$
B) W(l-a)(l-x)/2l
C) Wx(l-x)/l
D) None of the above

77 A train of concentrated loads of 20KN, 60KN, 80kN and 40KN at a distance of 0m,3m,5m and 7m move from left to right, the max negative shear force developed in the beam is

A) 166KN
B) 156KN
C) 165KN
D) 155KN

78 To get the maximum bending moment at a section the load should be placed in such a way that the section divides the load

A) In the same ratio as it divides the span

B) In the ratio greater than as it divides the span
C) In the ratio less than as it divides the span
D) None

79 A train of concentrated loads of 20KN, 60KN, 80kN and 40KN at a distance of 0m,3m,5m and 7m move from left to right, the max Bending moment developed in the beam is

A) 650KN
B) 670KN
C) 600KN
D) 635KN

80 The maximum bending moment for a simply supported beam with a moving udl w shorter than the span at a distance x

A) $W(l-x)^2/2l$
B) $W(l-a)(l-x)/2l$
C) $Wx(l-x)/l$
D) $Wc(l-c/2)/4$

81 When a load crosses a through type Pratt truss in the direction left to right, the nature of force in any diagonal member in the left half of the span would

A) Change from compression to tension
B) Change from tension to compression
C) Always be compression
D) Always be tension

82 Principle of superposition is applicable when

A) Deflections are linear functions of applied forces
B) Material obeys Hooke's law
C) The action of applied forces will be affected by small deformations of the structure
D) None of the above

83 The maximum positive shear for a simply supported beam with a moving udl w shorter than the span at a distance x

A) $W(l-x)^2/2l$
B) $Wc(l-x-c/2)/l$
C) $Wx(l-x)/l$
D) $Wc(l-c/2)/4$

84 A body in equilibrium does not possess any

A) Velocity
B) acceleration
C) momentum
D) speed

85 In static and dynamic equilibrium, the body does not possess any?

A) Acceleration neither linear nor angular
B) velocity neither linear nor angular
C) Displacement
D) None of these

86 The maximum negative shear for a simply supported beam with a moving udl w shorter than the span at a distance x

A) $W(l-x)^2/2l$
B) $Wc(l-x-c/2)/l$
C) $Wx(l-x)/l$
D) $Wc(l-c/2)/4$

87 The principle of virtual work can be applied to elastic system by considering the virtual work of

A) Internal forces only
B) Internal as well as external forces
C) External forces only
D) None of the above

88 In the case of a single concentrated load the equivalent udl for bending moment and shear force are

A) Same
B) Less than bending moment
C) More than bending moment
D) Both B & C

89 Which of the following methods of structural analysis is a displacement method?

A) Moment distribution method
B) Column analogy method
C) Three moment equation
D) None of the above

90 A load 'W' acts on a beam then the maximum bending moment at 0.4 1 from the left support is

A) 0.16 WL
B) 0.20 WL

C) 0.24 WL
D) 0.25 WL

91 In the displacement method of structural analysis, the basic unknowns are

A) Displacements
B) Force
C) Displacements and forces
D) None of the above

92 A body is said to be in dynamic equilibrium?

A) When it is moving around a circular path
B) When it is a. rest.
C) When it is moving with uniform velocity
D) When it is accelerated by the external force.

93 Two forces which form a couple?

A) Cannot be replaced by a single equivalent force
B) None of these.
C) Can be replaced by a single equivalent force
D) Are perpendicular to each other.

94. Roller support has only ---------- reaction

A) Vertical
B) Horizontal
C) Inclined
D) none of the above

95. Hinged support has only ----------moment

A) No
B) one
C) zero
D) Twice

96 If the distance between any two particle of a body remains constant, it is called as ----------body

A) Flexible body
B) rigid body
C) Deformable body
D) none of the above

97 The force that cancels the effect of the force system acting on the body is known as

A) Resultant
B) Neutral force
C) Balancing force
D) Equilibrant

98 The necessary condition of equilibrium of a body in two dimension is

A) ∑X=0
B) ∑Y=0
C) ∑X=0 and ∑Y=0
D) None

99 The deflection at any point of a perfect frame can be obtained by applying a unit load at the joint in

A) Vertical direction
B) Horizontal direction
C) Inclined direction
D) The direction in which the deflection is required

100 Coplanar non concurrent forces are those forces which---------- at a point, but their line of action lies on the same plane

A) Meet
B) does not meet
C) Not collinear
D) none of these

101 Compatibility conditions are primarily governed by

A) Strain
B) stress
C) temperature
D) force

102 Number of compatibility condition needed analysis of statically determinate structure are

A) 0
B) 2
C) 3
D) 6

103 Minimum number of equilibrium equations required for a plane frames analysis of structure is

A) 2
B) 3
C) 5

D) 6

104 Minimum number of equilibrium equations required for a space frames analysis of structure is

A) 3
B) 6
C) 8
D) 9

105 The number of independent equations to be satisfied for static equilibrium of a plane structure is

A) 3
B) 9
C) 1
D) 6

106 If there are m unknown member forces, r unknown reaction components and j number of joints, then the degree of static indeterminacy of a pin-jointed plane frame is given by

A) m + r + 2j
B) m - r + 2j
C) m + r - 2j
D) m + r - 3j

107 Number of unknown internal forces in each member of a rigid jointed plane frame is

A) 3
B) 2
C) 3
D) 6

108 Degree of static indeterminacy of a rigid-jointed plane frame having 15 members, 3 reaction components and 14 joints is

A) 2
B) 3
C) 6
D) 10

109 Degree of kinematic indeterminacy of a pin-jointed plane frame is given by

A) 2j + r
B) j - 2r
C) 3j – r
D) 2j - r

110 Independent displacement components at each joint of a rigid-jointed plane frame are

A) three linear movements
B) two linear movements and one rotation
C) one linear movement and two rotations
D) three rotations

111 If in a pin-jointed plane frame (m + r) > 2j, then the frame is

A) stable and statically determinate
B) stable and statically indeterminate
C) unstable
D) none of the above

112 where m is number of members, r is reaction components and j is number of joints a pin-jointed plane frame is unstable if

A) $(m + r)>2j$
B) $m + r = 2j$
C) $(m + r)<2j$
D) none of the above

113 where m is number of members, r is reaction components and j is number of joints A rigid-jointed plane frame is stable and statically determinate if

A) $(m + r) = 2j$
B) $(m + r) = 3j$
C) $(3m + r) = 3j$
D) $(m + 3r) = 3j$

114 where m is number of members, r is reaction components and j is number of joints The number of independent equations to be satisfied for static equilibrium in a space structure is

A) 6
B) 4
C) 3
D) 2

115 For a fixed support, the numbers of reactions are

A) 1
B) 2
C) 3
D) 4

116 For a roller support, the numbers of reactions are

A) 1
B) 2

C) 3
D) 4

117 For a pinned support, the numbers of reactions are

A) 1
B) 2
C) 3
D) 4

118 External redundancy can be calculated by

A) E=R-r
B) E=R+r
C) E=r-R
D) E= r+R

119 For a beam, if fundamental equations of statics are not sufficient to determine all the reactive forces at the supports, the structure is said to be [ ]

A) Determinate
B) Statically determinate
C) Statically indeterminate
D) none

120 For a beam, if fundamental equations of statics are sufficient to determine all the reactive forces at the supports, the structure is said to be

A) Determinate
B) Statically determinate
C) Statically indeterminate
D) none

121 If the beam is supported so that there are only three unknown reactive elements at the supports. These can be determined by using

A) ΣH=0
B) Σ H=0 Σ V=0
C) Σ H=0 Σ V=0 Σ M=0
D) none

122 For a beam having fixed ends, the unknown element of the reactions is

A) Horizontal components at either end
B) vertical components at either end
C) Horizontal component at one end and vertical component at other end
D) Horizontal component and vertical component at both ends.

123 The deformation of a spring produced by a unit load is called

A) Stiffness
B) flexibility
C) Influence coefficient
D) unit strain

124 To generate the jth column of the flexibility matrix

A) a unit force is applied at coordinate j and the displacements are calculated at all coordinates
B) a unit displacement is applied at co-ordinate j and the forces are calculated at all coordinates
C) a unit force is applied at coordinate j and the forces are calculated at all coordinates
D) a unit displacement is applied at co-ordinate j and the displacements are calculated at all coordinates

125 Select the correct statement

A) Flexibility matrix is inverse of stiffness matrix
B) Stiffness matrix is a square symmetrical matrix
C) both
D) None of the above

Signature of Faculty

Signature of HOD

MALLAREDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.TECH II SEM (MR17)

1ST MID EXAM QUESTION BANK

SUBJECT: Construction Engineering and Management

Branch: **Civil Engineering**

Name of the faculty: G.MADAN MOHAN REDDY, G.PRADEEP KUMAR

PART-A

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

Module I

Q.No	Question	Bloom's Taxonomy Level	CO
1	Classify the types of organization in detail?	Understanding	1
	OR		
2	Outline the types of construction?	Understanding	1
3	Construct the various stages in construction in detail	Applying	1
	OR		
4	Identify the resources for construction industry and write a short note?	Applying	1
5	List the different functions of construction management in detail.	Analyzing	1
	OR		
6	Examine in detail about a)construction planning b)construction management	Analyzing	1
7	Explain in detail objectives of construction management.	Understanding	1
	OR		
8	Explain briefly about Construction Management team	Understanding	1

Module II

Q.No	Question	Bloom's Taxonomy Level	CO
1	Classify the different types of Claims that arises in the event of Project closure? Explain any two	Analyzing	2
	OR		
2	Distinguish about some Dos and Dont's to avoid Disputes	Analyzing	2
3	Explain briefly about construction claim?	Understanding	2
	OR		
4	Illustrate the term Claim management Explain various steps involved in process of claim management	Understanding	2
5	Illustrate the term "Construction dispute" and explain various causes of dispute briefly	Understanding	2
	OR		
6	Explain the term Arbitration with its advantages in detail	Understanding	2
7	Choose the various dispute resolution mechanisms adopted by construction industry	Applying	2
	OR		
8	Identify different types of Closure in and explain any two in detail	Applying	2

Module III

Q.No	Question	Bloom's Taxonomy Level	CO
1	Contrast the suitability, merits and demerits of lump sum contract	Analyzing	3
	OR		
2	Classify about different types of estimation.	Analyzing	3
3	Explain the conditions of contract of construction work	Understanding	3
	OR		
4	Explain Significance of Safety and Quality in construction work	Understanding	3

MALLAREDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.TECH II SEM (MR17)
1st MID EXAM QUESTION BANK

SUBJECT: Construction Engineering and Management

Branch: **Civil Engineering**

Name of the faculty: G.MADAN MOHAN REDDY, G.PRADEEP KUMAR

Q .No QUESTION DESCRIPTION CORRECT ANSWER

1. Which of the following does not represent an activity? [ ]
A. Site located
B. Foundation is being dug
C. The office area is being cleaned
D. The invitations are being sent

2. In resources levelling [ ]
A. Total duration of project is reduced
B. Total duration of project is increased
C. Uniform demand of resources is achieved
D. Cost of project is controlled

3. Sensitivity analysis is a study of [ ]
A. Comparison of profit and loss
B. Comparison of assets and liabilities
C. Change in output due to change in input
D. Economics of cost and benefits of the project

4. Preliminary project report for a road project must contain [ ]
A. The detailed estimated cost based on detailed design
B. The several alternatives of the project that have been considered
C. The soil survey, traffic survey, concept design and approximate cost
D. The contract documents for inviting tenders

5. At a work site, statistical quality control of concrete means [ ]
A. Measurement of risks to eliminate failures
B. Applying the theory' of probability to sample testing or inspection
C. Reduction in wastage of inspection costs
D. Reduction in costs for the removal of defects

6. Pick up the correct statement from the following: [ ]
A. Optimistic time estimate refers to activities
B. Pessimistic time estimate refers to activities
C. Most likely time estimate refers to activities
D. All the above

7. The time with which direct cost does not reduce with the increase in time is known as [ ]

A. Crash time
B. Normal time
C. Optimistic time
D. Standard time

8. While filling the tender for any work, the contractor considers [ ]

A. Site survey
B. Availability of construction materials
C. Availability of labour
D. All the above

9. Power stations are generally treated as [ ]

A. Light construction
B. Heavy construction
C. Industrial construction
D. Electrical construction

10. Construction team means [ ]

A. An engineer
B. An architect
C. An owner
D. All the above

11. Works costing less than Rs. 20,000 are treated as [ ]

A. Any project
B. Major projects
C. Minor projects
D. All the above

12. Railway projects are treated as [ ]

A. Light construction
B. Heavy construction
C. Industrial construction
D. None of these

13. Which one of the following represents an event? [ ]

A. Concrete cured
B. Fixing of door
C. Plastering of walls
D. Selecting sites

14. For the execution of a project, a contractor is [ ]

A. A person
B. A firm
C. An agency
D. All the above

15. The constraints in case of resource smoothening operation would be [ ]

A. Resources
B. Project duration time

C. Both resources and project duration time
D. None of the above

16. The time which results in the leasi, possible construction cost of an activity, is known as [ ]
A. Normal time
B. Slow time
C. Crash time
D. Standard time

17. The direct cost of a project with respect to normal time is [ ]
A. minimum
B. Maximum
C. Zero
D. Infinite

18. The object of technical planning, is [ ]
A. Preparation of specifications
B. Preparation of estimates
C. Initiating the procurement action of resources
D. All the above

19. Various activities of a project, are shown on bar charts by [ ]
A. Vertical lines
B. Horizontal lines
C. Dots
D. Crosses

20. Pick up the incorrect statement from the following: [ ]
A. The activity is the time consuming part of a project
B. The beginning and end of a job, are called events
C. The activity which consumes maximum time, is called a node
D. Logically and sequentially connected activities and events form a network

21. The main principle of an organization, is [ ]
A. Unity of command
B. Effective control at all levels
C. Delegation of authority
D. All the above

22. Economic saving of time results by crashing [ ]
A. Cheapest critical activity
B. Cheapest noncritical activity
C. Costliest critical activity
D. Costliest noncritical activity

23. The technique for establishing and maintaining priorities among the various jobs of a project, is [ ]
A. known
B. Event flow scheduling technique
C. Critical ratio scheduling
D. Slotting technique for scheduling

24. Which one of the following represents an activity? [ ]
A. Excavation for foundation
B. Curing of concrete
C. Setting of question paper
D. All the above

25. Which of the following excavators is most suitable for digging under water? [ ]
A. Drag line
B. Hoe
C. Clam shell
D. Dipper shovel

26. Residential buildings are treated as [ ]
A. Light construction
B. Heavy construction
C. Industrial construction
D. Private construction

27. Military organization is known as [ ]
A. Line organization
B. Line and staff organization
C. Functional organization
D. None of these

28. The process of incorporating changes and rescheduling or re planning is called [ ]
A. Resource leveling
B. Resource smoothening
C. Updating
D. Critical path scheduling

29. The salient feature of functional organization is [ ]
A. Strict adherence to specifications
B. Separation of planning and design part
C. Each individual maintains functional efficiency
D. All the above

30. Which one of the following is not an excavating and moving type of equipment? [ ]
A. Bulldozer
B. Clam shell
C. Scraper
D. Dump truck

31. The main disadvantage of line organization, is [ ]
A. Rigid structure
B. Extraordinary delay in communications
C. Top level executions over work
D. All the above

32. Batching refers to [ ]
A. Controlling the total quantity at each batch
B. Weighing accurately, the quantity of each material for a job before mixing

C. Controlling the quantity of each material into each batch
D. Adjusting the water to be added in each batch according to the moisture content of the

33. Final technical authority of a project lies with [ ]
A. Assistant Engineer
B. Executive Engineer
C. Superintending Engineer
D. Chief Engineer

34. A construction schedule is prepared after collecting [ ]
A. Number of operations
B. Output of labour
C. Output of machinery
D. All the above

35. The reduction in project time normally results in [ ]
A. Decreasing the direct cost and increasing indirect cost
B. Increasing the direct cost and decreasing the indirect cost
C. Increasing the direct cost and indirect cost both
D. Decreasing the direct cost and indirect cost both

36. Frederick W. Taylor introduced a system of working known as [ ]
A. Line organization
B. Line and staff organization
C. Functional organization
D. Effective organization

37. The Overall in-charge of an organization at the site responsible for the execution of the works, is [ ]
A. Executive Engineer
B. Engineer
C. Junior Engineer
D. Assistant Engineer

38. The first stage of a construction, is [ ]
A. Preparation of estimate
B. Survey of the site
C. Initiation of proposal
D. Preparation of tender

39. The most popular type of organization used for Civil Engineering Constructions, is [ ]
A. Line organization
B. Line and staff organization
C. Functional organization
D. Effective organization

40. The probability of completion of any activity within its expected time is [ ]
A. 50 %
B. 84.1 %
C. 99.9 %
D. 100 %

41. Pre-tender stage requires [ ]
A. Acquisition of land
B. Selection of site
C. Formalization of alignment of work
D. All the above

42. The estimated time required to perform an activity, is known as [ ]
A. Event
B. Dummy
C. Duration
D. Float

43. Modular co-ordination of construction means proper [ ]
A. Planning
B. Designing
C. Execution
D. All the above

44. The final selection of a construction site, is done by [ ]
A. Departmental representative or user
B. Local civil authority representative
C. Representative of engineer authority
D. All the above

45. The main advantage of line organization is: [ ]
A. Effective command and control
B. Rigid discipline in the organization
C. Defined responsibilities at all levels
D. All the above

46. The first method invented for planning projects, was [ ]
A. Bar chart method
B. Milestone chart
C. Critical path method (CPM)
D. Programme Evaluation and Review Technique (PERT)

47. Modular co-ordination of construction means proper [ ]
A. planning
B. designing
C. execution
D. all the above.

48. In site organization who is the superior [ ]
A. EE
B. AE
C. JE
D. Foreman

49. The organizational structure can be classified into [ ]
A. Line organization
B. Line and staff organization

C. Functional organization
D. All the above.

50. Role of structural engineer [ ]
A. Prepare structural design
B. Prepare working drawing
C. Prepare layouts
D. all the above.

51 The term _____ is used in the case where required resources are assigned such that available resources are not exceeded [ ]
A. Resource allocation
B. Saving resources
C. Reserve allocation
D. None of these

52 _____ cannot be accomplished with these essential resources namely-materials, labour, equipment and time. [ ]
A. Resource management
B. Resource Planning
C. Resource allocation
D. None of these

53 Human resource planning breaks down into [ ]
A. Home office personnel
B. Construction sub-contractors
C. Construction personnel
D. All of these

54 The simplest form of a personnel loading curve is a _____ shape [ ]
A. rectangular
B. trapezoidal
C. triangular
D. None of these

55 With the consideration of __we should consider home office support personnel since they play an important role in the project involvement [ ]
A. Manpower
B. machinery
C. management
D. None of these

56 _____ refers to the set of actions and methodology used by organizations to efficiently assign the resources they have to jobs, tasks or projects [ ]
A. scheduling
B. Resource scheduling
C. principle of scheduling
D. None of these

57 _____ scheduling is the key to project management [ ]
A. Planning
B. Resource

C. Both a&b
D. None of these

58 Manpower plays important role in project _____ [ ]
A. Involvement
B. management
C. resources
D. All of the above

59 _____is the fitting of the final work plan to a time scale. [ ]
A. Planning
B. Scheduling
C. Organizing
D. None of these

60 _____is concerned with decision of the total construction work into manageable departments/sections and systematically managing various operations by delegating specific tasks to individuals [ ]
A. Organizing
B. Planning
C. Implementing
D. None of these

61 Contractor requesting for either time extension or reimbursement or sometimes both is called as [ ]
A. claim
B. Dispute
C. Addition
D. None of these

62 Claims are becoming an inevitable and unavoidable due to [ ]
A. Improper execution
B. High expectations of owner
C. Differences between owner and contractor
D. All the above

63 The contractor studies the extra works and same is read against contract it is termed as [ ]
A. Claim identification
B. Claim notification
C. Claim substantiation
D. None of the above

64 After it is established by the contractor that it is an extra work, contractor should inform by [ ]
A. Claim identification
B. Claim substantiation
C. Claim notification
D. None of the above

65 It is always preferable to link ____ to contractual provisions [ ]
A. Dispute
B. Claim

C. Notification
D. Identification

66 Indicate intention and submit it within ____ frame provided in the contract [ ]
A. Time
B. Contract
C. Money
D. None

67 The geneses of many disputes often lie in the [ ]
A. Contractor
B. Contract document
C. Litigation
D. Claim

68 Incorrect ground data includes [ ]
A. Ground conditions
B. Depth of water table
C. Rainfall and temperature
D. All of the above

69 The language of the contract should be clear and such that it is open to different [ ]
A. Opinions
B. Admits
C. dismissals
D. Interpretations

70 The most commonly used mechanism for settlement of technical disputes in a construction project [ ]
A. Resolution
B. Attitudes
C. Avoidance
D. Arbitration

71 The difference between the ground reality during execution and the conditions provided in the contract could easily be the reason for [ ]
A. Business
B. Contract
C. Dispute
D. Profit

72 The ____ of the contract should be clear and such that it is not open to different interpretations [ ]
A. Clarity
B. Language
C. Provisions
D. Wordings

73 The adjudication process is carried out as per the _____ set out in contract [ ]
A. Provisions
B. Rules
C. Disciplines

D. None

74 There may be loss of profit and _____ to the owner due to delays caused by contractor [ ]

A. Person
B. Owner
C. Builder
D. Engineer

75 The scope of the work may be substantially modified by the [ ]

A. Contractor
B. Builder
C. Owner
D. Individual

76 Construction ____can also arise on account of inclement weather [ ]

A. Loss
B. Claims
C. Profit
D. None

77 It is always preferable to link the claim to [ ]

A. Profit provisions
B. Contractual provisions
C. Loss
D. Dealing

78 The owner may desire to get the work done at a faster pace than is required by [ ]

A. Contract document
B. Contractor
C. Builder
D. Engineer

79 There may be hold on works due to delay in release of drawings and other inputs cause [ ]

A. Profit
B. Claim
C. Loss
D. None

80 Following is the mechanism of dispute resolution [ ]

A. Negotiation
B. Mediation and conciliation
C. Arbitration
D. All of the above

81 Don’t throw good money after bad money in pursuing ____ claims [ ]

A. Good
B. Useless
C. Arbitrary
D. Bad

82 To avoid ____ study contract conditions and local laws thoroughly [ ]
A. Loss
B. Profit
C. Dispute
D. Ambiguity

83 Project closure can be [ ]
A. Construction closure
B. Financial closure
C. Contract closure
D. All of the above

84 This is the ___ phase of a construction project [ ]
A. Last
B. First
C. Mid
D. None of the above

85 A____ planned project closure may take more than a year to complete [ ]
A. Poorly
B. Improper
C. Good
D. Medium

86 The _____ from the project closure phase help to execute the next project with more efficiency and control [ ]
A. Outputs
B. Inputs
C. Profits
D. All the above

87 Claim is a ____ legged table [ ]
A. Four
B. Two
C. Three
D. One

88 Liability ,causation, damages comes under [ ]
A. Project closure
B. Claim
C. Profits
D. Loss

89 _____ is defined as communication between parties concerned, either in writing or in oral form. [ ]
A. Dispute
B. Claim
C. Profits
D. Project closure

90 ____ usually issued by the municipality under the jurisdiction [ ]
A. Demobilization

B. Certificate of occupancy
C. Financial closure
D. Contract closure

91 ____ should not to be made for the sake of record creation [ ]
A. Loss
B. Profits
C. Closure
D. Correspondence

92 Tenor of correspondence should not be [ ]
A. Aggressive
B. Nominal
C. Up surd
D. None

93 In correspondence ___ should not be misrepresented [ ]
A. Laws
B. Conditions
C. Facts
D. All the above

94 Facts and figures should not be [ ]
A. Aggressive
B. Exaggerated
C. Simple
D. All the above

95 Correspondence should not to be made for the sake of ____ creation [ ]
A. Bad
B. Interpretation
C. Record
D. None of the above

96 Have your ___ settled during the course of execution [ ]
A. Arbitrations
B. Disputes
C. Closures
D. Claims

97 _____has clear merits over formal legal proceedings [ ]
A. Arbitration
B. Disclosures
C. Alternative dispute resolution
D. None

98 Be careful how the law of the land interprets –no damage clause in favour of [ ]
A. Owner
B. Contractor
C. Builder
D. Engineer

99 To avoid ____ provide analysis and documentation early [ ]
A. Damages
B. Loss
C. Disputes
D. None

100 Do not set up ego barriers in settling ____ during the course of work [ ]
A. Disputes
B. Profits
C. Damages
D. All of the above

101 During the construction period, price variation clause in contracts caters to [ ]
A. Increase in rates of only important materials
B. Variation in cost in materials element, labour element and petrol-oil-lubricant element
C. Variation in total cost of the project on an ad hoc basis
D. Rate of inflation

102 While filling the tender for any work, the contractor considers [ ]
A. Site survey
B. Availability of construction materials
C. Availability of labour
D. All the above

103 For the execution of a project, a contractor is [ ]
A. A person
B. A firm
C. An agency
D. All the above

104 Mobilization advance up to 10% of the cost of work is given to a contractor [ ]
A. On commencement of work at site for payment of loan taken by him
B. For the purchase of construction materials
C. For the payment of advances to labour and other staff
D. For all activities required to start the work at site on finalization of the contract document

105 The first stage of a construction, is [ ]
A. Preparation of estimate
B. Survey of the site
C. Initiation of proposal
D. Preparation of tender

106 Sinking fund is [ ]
A. The fund for rebuilding a structure when its economic life is over
B. Raised to meet maintenance costs
C. The total sum to be paid to the municipal authorities by the tenants
D. A part of the money kept in reserve for providing additional structures and structural modifications

107 Which contract fixed lump sum amount is paid to contractor [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract

D. Lump sum contract

108 Type of contract suitable for contractor having prior construction experience [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

109 Type of contract not suitable for difficult foundation excavation of un certain character [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

110 Type of contract not suitable for projects susceptible to un predictable hazards and variations [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

111 Type of contract in which un foreseen details of work are not specified in the contract document [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

112 Schedule contract is also known as [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

113 Type of contract most used for works financed by public or government bodies [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

114 Type of contract in which there is no need for detailed drawings at the time of allotting contract [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

115 Changes in drawings and quantities of individual items can be made in [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract

D. Lump sum contract

116 In which contract the payment to the contractor is made on the actual work done [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

117 In which contract lump sum amount and schedule of rates are included in the contract agreement [ ]
A. Item rate contract
B. Lump sum and schedule contract
C. Cost plus percent of cost contract
D. Lump sum contract

118 In which contract amount of fee is determined as a lump sun [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

119 Type of contract suitable for important structures where the cost of construction is immaterial [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

120 Type of contract cannot be adopted normally in case of public bodies and government departments [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

121 Type of contract which is given on certain percentage over the actual cost of construction [ ]
A. Item rate contract
B. Cost plus fixed fee contract
C. Cost plus percent of cost contract
D. Lump sum contract

122 Important documents of contract [ ]
A. Time of completion
B. Penalty
C. Settlement of disputes
D. All the above

123 Which of the following is approximate estimation [ ]
A. Plinth are method
B. Cubic rate method
C. Bay method
D. All the above

124 A detailed estimate is accompanied by [ ]

A. Report
B. Specification
C. Design data and calculation
D. All the above

125 The rights and obligations of the owner and the contractor are defined in a document called [ ]

A. Tender document
B. Tender form
C. Contract document
D. None of the above

Signature of the Faculty **Signature of the HoD**

MALLAREDDY ENGINEERING COLLEGE (AUTONOMOUS)

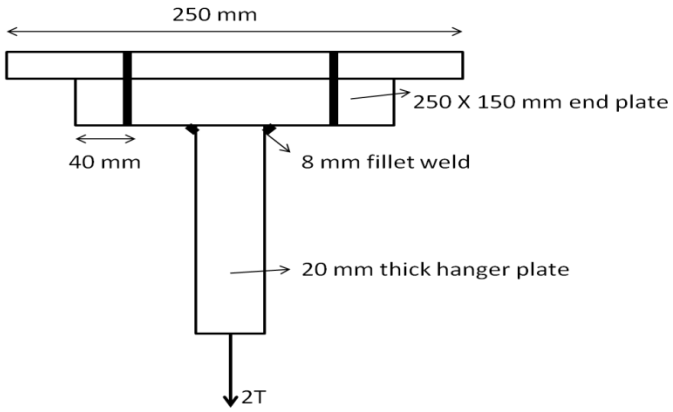
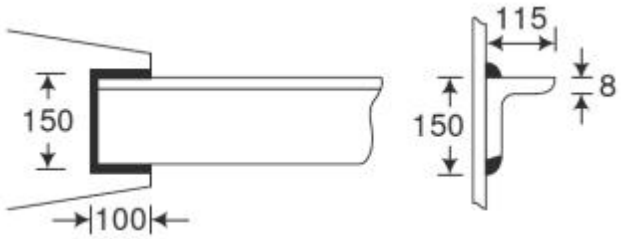
III B.TECH II SEM (MR17 REGULATIOS)
1ST MID EXAM QUESTIONS

Subject: Design of Steel Structures
Branch: Civil Engineering
Name of the Faculty: B. Vamsi Krishna, Dr. Rex, G. Krishna Rao

Blooms Taxonomy Levels: Remembering, Understanding, Applying, Analyzing, Evaluating**,** Creating

Subjective questions:

Q.No.	Questions	Bloom's Taxonomy Level	CO
	MODULE-1		
1	What is structural steel? What are the important properties of structural steel?	Remembering	1
	OR		
2	Briefly explain the possible limit states that are considered in the limit state method of design of steel structures?	Understanding	1
3	What are the types of structural Steel?	Remembering	1
	OR		
4	What are the various steps involved in the construction of steel structures?	Remembering	1
5	Two plates 10 mm and 18 mm thick are to be joined by double cover butt joint. Design the joint for the following date. Factored design load 750 KN Bolt diameter 20 mm Grade of steel Fe 410 Grade of bolts 4.6 Cover plates 2 (one on each side) 8 mm thick	Creating	2
	OR		
6	An 18 mm thick plate is joined to a 16 mm plate by 200 mm long (effective) butt weld. Determine the strength of joint if (I) A double v butt weld is used (II) A single v butt weld is used	Evaluating	2

	Assume that Fe 410 grade plates and shop welds are used.		
	OR		
7	Design a hanger joint as shown in figure to carry a factored load of 300 KN. Use an end plate of size 250 mm x 150 mm and appropriate thickness, M24 HSFG bolts (2 nos) and Fe 410 steel for end plate (fy = 250 MPa).  	Creating	2
	OR		
8	What are the advantages of the bolted connections over welded connections?	Remembering	2
	MODULE-2		
1	What are the applications of tension members? Give some examples.	Remembering	3
	OR		
2	What is a lug angle .why lug angles are used explain with a diagram?	Remembering	3
3	Compute the tensile strength of an angle section is a 150x115x8 mm of Fe 410 grade of steel connected with the gusset plate as shown in fig…. For the following cases: **[BL-VI]** a.) Gross section yielding b.) Net section rupture  	Creating	3
	OR		
4	Design a single angle section for a tension member of a roof truss to carry a factored tensile force of 225 KN. The member is subjected to the possible reversal of stress due to the action of wind. The effective	Creating	3

	length of the member is 3m. Use 20 mm shop bolts of grade 4.6 for the connection. Check for slenderness?		
5	Design a splice to connect a 300 x 20 mm plate with a 300 x 10 mm plate. The design load is 500 KN. Use 20 mm black bolts, fabricated in the shop.	Creating	3
	OR		
6	A tension member of a roof truss carries a factored axial tension of 430 KN. Design the section and its connection by using lug angle.	Creating	3
7	Explain in detail about various types of failures in Tension Members as per IS: 800-2007?	Understanding	3
	OR		
8	Design a single angle section for a tension member of a roof truss to carry a factored tensile force of 250 KN. The member is subjects to the possible reversal of stress due to the action of wind. The length of the member is 4m. Use 20 mm shop bolts of grade 4.6 for the connection?	Creating	3
	MODULE-3		
1	List out the steps involved in the design of compression members?	Remembering	3
	OR		
2	What is the main purpose of lacings and battens?	Remembering	3
3	A column 4m long has to support a factored load of 6000 KN. The column is effectively held at both the ends and restrained in direction at one of the ends. Design the column using beam sections and plates.	Creating	3
	OR		
4	Design a local column of length 10m subjected to a factored load of 1400 KN. Channels used are kept back to back. The column is restrained in position but not in direction at both the ends. Assume steel of grade Fe 410 and bolts of grade 4.6.	Creating	3

A- Sec: B. Vamsi Krishna CE-HOD

B-Sec: Dr. Rex

C- Sec: G. Krishna Rao

MALLAREDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.TECH II SEM (MR17 REGULATIOS)
1ST MID EXAM QUESTIONS

Subject: Design of Steel Structures
Branch: Civil Engineering
Name of the Faculty: B. Vamsi Krishna
Objective Questions:

MODULE-I

1.) Unit mass of steel **ρ** = kg/m^3 [ ]

A 7800

B 7850

C 7820

D 7890

2.) The heaviest I-Section for same depth is [ ]

A ISMB

B ISHB

C ISLB

D ISWB

3.) The code of recommendation for structural wind loads [ ]

A IS: 875 (part – i)

B IS: 875 (part – ii)

C IS: 875 (part – iii)

D IS : 875 (part – iv)

4.) Which of the following is not a serviceability criteria? [ ]

A Deflection

B Fatigue

C Vibration

D Force resistance

5.) Which of the following causes fatigue in a structure? [ ]

A Maximum stress

B Residual stress

C Large number of loading cycles

D Wide range of stress variation

6.) Poisson's Ratio of structural steel (μ) is [ ]

A Elastic range = 0.4, Plastic range = 0.5

B Elastic range = 0.3, Plastic range = 0.5

C Elastic range = 0.4, Plastic range = 0.3

D Elastic range = 0.4, Plastic range = 0.2

7.) The partial safety factor of material for resistance governed by ultimate stress Υ_{mo} [ ]

A 1.1

B 1.3

C 1.5

D 1.25

8.) The partial safety factor of bolted material Υ_{mb} [ ]

A 1.1

B 1.3

C 1.5

D 1.25

9.) The working stress method followed by the [ ]

A Working strength method

B Limit state method

C Ultimate strength design

D Factor of safety design

10.) The maximum deflection affecting the strength and stability of the structure is controlled by the [ ]

A Strength limit state

B Deflection limit state

C Serviceability limit state

D Ultimate load state

11.) Carbon content in mild steel ranges from [ ]

A 0.2 % – 2%

B < 0.2 %

C > 2 %

D 0.5 – 3%

12.) Steel is mainly an alloy of [ ]

A Iron and carbon

B Sulphur and zinc

C Zinc and tin

D Phosphorous and tin

13.) Which of the following is the disadvantage of steel? [ ]

A High strength per unit mass

B High durability

C Fire and corrosion resistance

D Reusable

14.) Elastic modulus of steel is [ ]

A 1.5×10^9 N/mm^2

B 2.0×10^5 N/mm^2

C 2.0×10^5 N/m^2

D 1.5×10^9 N/m^2

15.) Unit mass of steel is [ ]

A 785 kg/m^3

B 450 kg/m^3

C 450 kg/cm^3

D 7850 kg/m^3

16.) Poisson's ratio of steel is [ ]

A 0.1

B 1.0

C 0.3

D 2.0

17.) Structural steel normally has carbon content less than [ ]

A 1.0 %

B 0.6 %

C 3.0 %

D 5.0 %

18.) What is the permissible percentage of sulphur and phosphorous content in steel? [ ]

A 0.1, 0.12 %

B 1.0, 3.0 %

C 3.0, 1.0 %

D 1.0, 1.0%

19.) What happens when manganese is added to steel [ ]

A Decreases strength and hardness in steel

B Improves corrosion resistance

C Decreases ductility

D Improves strength and hardness of steel

20.) Which of the following is the effect of increased content of sulphur and phosphorous in steel? [ ]

A Yield high strength

B Affects weldability

C Increases resistance to corrosion

D Improves resistance to high temperature

21.) Which of the following is added to steel to increase resistance to corrosion? [ ]

A Carbon

B Manganese

C Sulphur

D Copper

22.) Which of the following properties are affected due to addition of carbon and manganese to steel? (i) Tensile strength and yield property (ii) Ductility (iii) Welding (iv) Corrosion resistance [ ]

A i and ii only

B i and iii only

C i, ii and iii

D i and iv only

23.) Chrome and nickel are added to steel to improve [ ]

A Corrosion resistance and high temperature resistance

B Strength

C Ductility

D Weldability

24.) Which of the following is the property of high carbon steel? [ ]

A High toughness

B Reduced ductility

C High strength

D Reduced strength

25.) High carbon steel is used in [ ]

A Transmission lines and microwave towers

B Structural buildings

C Fire resistant buildings

D For waterproofing

26.) Fire resistant steels are also called as [ ]

A Stainless steel

B Weathering steel

C High strength steel

D Thermomechanically treated steel

27.) What is the minimum percentage of chromium and nickel added to stainless steel [ ]

A 0.5, 10.5 %

B 2, 20 %

C 10.5, 0.5 %

D 30, 50 %

28.) Which of the following is the correct criterion to be considered while designing? [ ]

A Structure should be aesthetically pleasing but structurally unsafe

B Structure should be cheap in cost even though it may be structurally unsafe

C Structure should be structurally safe but less durable

D Structure should be adequately safe, should have adequate serviceability

29.) What is serviceability [ ]

A It refers to condition when structure is not usable

B It refers to services offered in the structure

C It means that the structure should perform satisfactorily under different loads, without discomfort to user

D It means that structure should be economically viable

30.) Analysis is referred to [ ]

A Determination of cost of structure

B Determination of axial forces, bending moment, shear force etc.

C Determination of factor of safety

D Drafting architectural plans and drawings

31.) The structure is statically indeterminate when [ ]

A Static equilibrium equations are insufficient for determining internal forces and reactions on that structure

B Static equilibrium equations are sufficient for determining internal forces and reactions on that structure

C Structure is economically viable

D Structure is environment friendly

32.) Which method is mainly adopted for design of steel structures as per IS Code [ ]

A Limit state method

B Working stress method

C Ultimate load method

D Earthquake load method

33.) Which IS code is used for general construction of steel? [ ]

A IS 456

B IS 256

C IS 800

D IS 801

34.) Limit state method is based on [ ]

A Calculations on service load conditions alone

B Calculations on ultimate load conditions alone

C Calculations at working loads and ultimate loads

D Calculations on earthquake loads

35.) What is limit state [ ]

A Acceptable limits for safety and serviceability requirements before failure occurs

B Acceptable limits for safety and serviceability requirements after failure occurs

C Acceptable limits for safety after failure occurs

D Acceptable limits for serviceability after failure occurs

36.) Which of the following format is used in limit state method? [ ]

A Single safety factor

B Multiple safety factor

C Load factor

D Wind factor

37.) Which of the following factors is included in the limit state of strength? [ ]

A Fire

B Failure by excessive deformation

C Corrosion

D Repairable damage or crack due to fatigue

38.) Which of the following factors is included in the limit state of serviceability? [ ]

A Brittle facture

B Fracture due to fatigue

C Failure by excessive deformation

D Deformation and deflection adversely affecting appearance or effective use of structure

39.) Which of the following relation is correct? [ ]

A Design Load = Characteristic Load

B Design Load = Characteristic Load + Partial factor of safety

C Design Load = Characteristic Load / Partial factor of safety

D Design Load = Characteristic Load x Partial factor of safety

40.) Which of the following relation is correct? [ ]

A Design Strength = Ultimate strength + Partial factor of safety

B Design Strength = Ultimate strength - Partial factor of safety

C Design Strength = Ultimate strength / Partial factor of safety

D Design Strength = Ultimate strength x Partial factor of safety

41.) Physical properties of structural steel irrespective of its grade are [ ]

A Youngs Modulus

B Poisson's Ratio

C Shear Modulus

D All the above

42.) ---------- is the ability of a material to resist deterioration over long periods of time? [ ]

A Durability

B Ductility

C Brittleness

D Elasticity

43.) Percentage of elongation shall be taken over the gauge length [ ]

A $5.85\sqrt{S_0}$

B $5.65\sqrt{S_0}$

C $5.75\sqrt{S_0}$

D $5.55\sqrt{S_0}$

44.) The code of recommendation for structural earthquake loads is [ ]

A IS:1892

B IS:1894

C IS:1893

D IS:1895

45.) A tie bar 80mmx6mm is to carry a load of 100kn. A specimen of the same quality of steel of cross-section area 300mm^2 was tested in the lab. The maximum load carried by the specimen was 200kn. The factor of safety in the design is [ ]

A 2.1

B 2.2

C 2.3

D 2.5

46.) Mention any three types of structural steel [ ]

A Mild Steel

B HYSD Bars

C Tempered Steel

D All the above

47.) What are the three important responsibilities of structural steel engineer [ ]

A Drawing

B Erection

C DLR

D All the above

48.) Permissible (allowable)stress [ ]

A Yield Stress/PSF

B PSF/FOS

C Yield Stress/Ultimate Stress

D Ultimate Stress /PSF

49.) Design strength < Design action [ ]

A Yes

B No

C None is correct

D Always exist

50.) Two serviceability limit states mainly required for steel structure [ ]

a Deflection

b Corrosion

c Both a & b

d None of the above

MODULE-II

1.) Shear capacity (strength) of bearing bolts in a joint? [ ]

A $V_{dsb} = V_{nsb}/\Upsilon_{mb}$

B $V_{dsb} = \Upsilon_{mb}/V_{nsb}$

C $V_{dsb} = V_{nsb}X\Upsilon_{mb}$

D $V_{nsb} = V_{dsb}/\Upsilon_{mb}$

2.) Material Properties of bolts as per IS: 1367 for Grade 4.6. [ ]

A F_y= 200 Mpa, F_u= 420 Mpa

B F_y= 240 Mpa, F_u= 400 Mpa

C F_y= 240 Mpa, F_u= 420 Mpa

D F_y= 300 Mpa, F_u= 400 Mpa

3.) In case of lap joints, the minimum lap should not be less than ---------the thickness of the thinner part joined or ----------, whichever is more. [ ]

A 5 Times, 50 mm

B 5 Times, 40 mm

C 4 Times, 40 mm

D 6 Times, 30 mm

4.) **HSFG Bolt** stands for: [ ]

A High strength flat grade

B High strength friction grip

C High strength flowable grip

D High strength friction grade

5.) Design strength of a fillet weld, fwd shall be based on its throat area and shall be given by: [ ]

A $F_{wd} = \Upsilon_{mw/} F_{wn}$

B $F_{wd} = F_{wn} x \Upsilon_{mw}$

C $F_{wn} = F_{wd} / \Upsilon_{mw}$

D $F_{wd} = F_{wn} / \Upsilon_{mw}$

6.) If the thickness of thinnest outside plate is 10 mm, then the maximum pitch of bolts in ***tension*** will be taken as [ ]

A 120 mm

B 160 mm

C 200 mm

D 300 mm

7.) When the axis of load lies in the plane of rivet group, then the bolts are subjected to [ ]

A Only shear stresses

B Only tensile stresses

C Both a) & b)

D None of the above

8.) Which of the following types of bolted joint is subjected to bending stresses? [ ]

A Lap joint

B Butt joint with single cover plate

C Butt joint with double cover plates

D None of the above

9.) The effective length of a fillet weld should not be less than [ ]

A Two times the weld size

B Four times the weld size

C Six times the weld size

D Weld size

10.) The actual thickness of butt weld as compared to the thickness of plate is usually [ ]

A More

B Less

C Equal

D None of the above

11.) The partial factor of safety for resistance governed by yielding is: [ ]

A 1.10

B 1.5

C 2.0

D 1.25

12.) The partial factor of safety for resistance governed by ultimate strength is: [ ]

A 1.10

B 1.5

C 2.0

D 1.25

13.) Which IS code is used for calculating different loads on different structures? [ ]

A IS 800

B IS 200

C IS 300

D IS 875

14.) Which of the following load is to be considered on liquid retaining structure? [ ]

A Hydrostatic load

B Wave and current load

C Earth pressure

D Dynamic load

15.) The heaviest I-section for same depth is [ ]

A ISMB

B ISLB

C ISHB

D ISWB

16.) Bending Compressive and tensile stresses respectively are calculated based on [ ]

A Net area and gross area

B Gross area and net area

C Net area in both cases

D Gross area in both cases

17.) If the thickness of thinnest outside plate is 10 mm, then the maximum pitch of bolts in tension will be taken as [ ]

A 120 mm

B 160 mm

C 200 mm

D 300 mm

18.) When the axis of load lies in the plane of bolt group, then the bolts are subjected to [ ]

A Only shear stresses

B Only tensile stresses

C Both of the above

D None of the above

19.) Which of the following types of riveted joint is free from bending stresses? [ ]

A Lap joint

B Single cover butt joint

C Double cover butt joint

D None of the above

20.) By providing sufficient edge distance, which of the following failures of bolted joint can be avoided? [ ]

A Tension failure of the plate

B Shear failure of the bolt

C Shear failure of the plate

D Crushing failure of the rivet

21.) Minimum pitch of the rivets shall not be less than [ ]

A 2.5 d

B 1.5 d

C 1.7 d

D 3.0 d

22.) Bolts are most suitable to carry [ ]

A Shear

B Bending

C Axial tension

D Shear and bending

23.) When the bolts are subjected to reversal of stresses, the most suitable type of bolt is [ ]

A Black bolt

B Ordinary unfinished bolt

C Turned and fitted bolt

D High strength bolt

24.) In the cross-section of a weld, throat is the [ ]

A Minimum dimension

B Average dimension

C Maximum dimension

D None of the above

25.) The effective length of a fillet weld should not be less than [ ]

A Two times the weld size

B Four times the weld size

C Six times the weld size

D Weld size

26.) A butt weld is specified by [ ]

A Effective throat thickness

B Plate thickness

C Size of weld

D Penetration thickness

27.) The actual thickness of butt weld as compared to the thickness of plate is usually [ ]

A More

B Less

C Equal

D None of the above

28.) Steel tanks are mainly designed for [ ]

A Weight of tank

B Wind pressure

C Water pressure

D Earthquake pressure

29.) A beam is defined as a structural member subjected to [ ]

A Axial loading

B Transverse loading

C Axial and transverse loading

D None of the above

30.) A fillet weld may be termed as [ ]

A Mitre weld

B Concave weld

C Convex weld

D All the above

31.) If the moment of inertia of a section about its axis is I and its effective sectional area is A, its radius of gyration r about the axis, is [ ]

A $r = I/A$

B $r = \text{sqrt}(I/A)$

C $r = 3\text{sqrt}(I/A)$

D $r = \text{sqrt}(I^2/A)$

32.) Pick up the correct statement from the following: [ ]

A Dead load includes self-weight of the structure and super-imposed loads permanently attached to the structure

B Dead loads change their position and vary in magnitude

C Dead loads are known in the beginning if the design

D None of these.

33.) The rolled steel I sections are most commonly used as beams because these provide [ ]

A Large moment of inertia with less cross-sectional area

B Large moment of resistance as compared to other section

C Greater lateral stability

D All the above

34.) For the steel member exposed to weather and accessible for repairing, the thickness of steel should not be less than [ ]

A 4 mm

B 6 mm

C 8 mm

D 10 mm

35.) Pick up the correct statement from the following [ ]

A When the gauge distance is larger than the pitch, the failure of the section may occur in a zig-zag line

B When the gauge distance is smaller than the pitch, the failure of the section may occur in a straight right angle section through the centre of rivet holes

C When the gauge distance and pitch distance are both equal, the failure to the section becomes more likely as the diameter of the holes increases

D All the above

36.) The ratio of longitudinal stress to strain within elastic limit, is known as [ ]

A Modulus of elasticity

B Shear modulus of elasticity

C Bulk modulus of elasticity

D Tangent modulus of elasticity

37.) Classification of bolts based on type of load transfer [ ]

A Bearing only

B Friction Grip only

C Both a & b

D None of these

38.) Max edge distance of a fastener should not exceed [ ]

A 16t€

B 17t€

C 18t€

D 19t€

39.) Angle of fusion should not be more than [ ]

A 60

B 90

C 120

D 100

40.) Spot welding is used when two plates are placed [ ]

A One below the other

B One over the other

C One after the other

D None of these

41.) According to IS Specifications, the maximum pitch of rivets in compression is [ ]

A 12t

B 13t

C 14t

D 16t

42.) When the bolts are subjected to reversal of stresses, the most suitable type of bolt is [ ]

A Turned bolt

B Unturned bolt

C HSFG

D Bearing

43.) Bolts are used as a temporary fastenings whereas rivets are used as permanent fastenings [ ]

A Yes

B No

C Both are interlinked

D None of these

44.) In the cross-section of a weld, throat is the minimum dimension [ ]

A Yes

B No

C Both are interlinked

D None of these

45.) A butt weld is specified by effective throat thickness [ ]

A Yes

B No

C Both are interlinked

D None of these

46.) Angle of fusion should not be less than [ ]

A 60

B 90

C 120

D 100

47.) Reduction Factor for Long joint in Fillet weld should not greater than [ ]

A $130t_t$

B $150t_t$

C $120t_t$

D $180t_t$

48.) The lap joint in fillet weld should not be less than [ ]

A $30t_t$

B $20t_t$

C $40t_t$

D $50t_t$

49.) Thickness of thicker part of plate is 16 mm, weld size is…….. [ ]

A 3

B 5

C 6

D 10

50.) Fillet welds on square edge plate should be left minimum……..of edge thickness of plate [ ]

A 1.5

B 1.6

C 1.7

D 1.8

MODULE-III

1.) The best tension member section will be a [ ]

A Bolted single- angle section

B Welded single-angle section

C Double-angle section on opposite side of gusset plate

D Channel section

2.) A steel plate is 30 cm wide and 10 mm thick. If the diameter of the bolt hole is 20mm, the net section area of the plate is [ ]

A 18.00 cm^2

B 280 cm^2

C 28.00 cm^2

d 32.42 cm^2

3.) The design tensile strength of a member due to yielding of gross section T_{dg} is given by [ ]

A $A_g f_u/\Upsilon_{m1}$

B $A_g f_y/\Upsilon_{m1}$

C $A_g f_y/\Upsilon_{m0}$

d $A_g f_u / \Upsilon_{m0}$

4.) For the block shear failure of a tension member, the failure occurs along a path through the connection involving [ ]

a Tension on the two perpendicular planes

b Shear on the two perpendicular planes

c Tension on one plane and shear on the other perpendicular plane

d Tension on the plane to connection and compression the other perpendicular plane

5.) An additional short angle may be used for tension member to reduce the joint length and shear lag, such angle is called [ ]

A Lag angle

b Lug angle

c Long angle

d Short angle

6.) What are steel tension members? [ ]

A Structural elements that are subjected to direct compressive loads

b Structural elements that are subjected to direct tensile loads

c Structural elements that are subjected to indirect compressive loads

d Structural elements that are subjected to indirect tensile loads

7.) The strength of tensile members is not influenced by: [ ]

A Length of the connection

B Net area of cross section

C Type of fabrication

D Length of plate

8.) Which of the following statement is correct? [ ]

A single angle section with bolted connection produce eccentricity about both planes

B single angle section with bolted connection produce eccentricity about one plane only

C single angle section with welded connection produce eccentricity about both planes

d single angle section with welded connection does not produce eccentricity about one plane

9.) Which of the following statement is correct? [ ]

a Single angle members are used where members are subjected to reversal of stresses

b Double angle members are used in towers

c Single angle members are used as web members in trusses

d Double angle members are used as web members in trusses

10.) What is the difference between strand and wire rope? [ ]

A Strand consists of individual wires wound helically around a central core, wire rope is made of several strand laid helically around a core

B Wire rope consists of individual wires wound helically around a central core, strand is made of several wire ropes laid helically around a core

C Strand consists of individual wires wound straight around a central core, wire rope is made of several strand laid helically around a core

D Wire rope consists of individual wires wound straight around a central core, strand is made of several wire ropes laid helically around a core

11.) Bars and rods are not used as: [ ]

A Tension members in bracing systems

B Friction resistant members

C Sag rods to support purlin

D To support girts in industrial buildings

12.) Which of the following type of tension member is not mainly used in modern practice? [ ]

A Open section such as angles

B Flat bars

C Double angles

D Circular section

13.) Which of the following statement is correct? [ ]

A Angles placed on same side of gusset plate produce eccentricity about one plane only

B Angles placed on same side of gusset plate produce eccentricity about two planes

C Angles placed on opposite side of gusset plate produce eccentricity about one plane only

D Angles placed on opposite side of gusset plate produce eccentricity about two planes

14.) Stress area in the tension member is [ ]

A Effective c/s area of the thread

B Effective c/s area of the shank

C Effective c/s area of the thread & shank

D None of the above

15.) The design tensile strength of a plate due to rupture of critical section is given by [ ]

A 0.7 An fu/ym

B 0.9 An fu/ym

C 0.8 An fu/ym

D 0.5 An fu/ym

16.) A gusset plate is subjected to ----------stresse [ ]

A Bending stress

B Direct stress, shear stress & bending stress

C Direct stress, shear stress

D Direct stress

17.) Give types of tension member failures [ ]

A Yielding

B Rupture

C Yielding, Rupture, Block Shear

D Block Shear

18.) The displacement is a serviceability limit state criterion and therefore displacement formula for tension member under service load is [ ]

A PL/EAg

B 2PL/EAg

C 3PL/EAg

D 4PL/EAg

19.) The slenderness ratio in a tension member as per IS Code where reversal tension stress is due to loads other than wind or seismic should not exceed [ ]

A 350

B 180

C 100

D 60

20.) Net area of bolt is…… [ ]

A $0.75 \times \pi/4d^2$

B $0.78 \times \pi/4d^2$

C $0.77 \times \pi/4d^2$

D $0.79 \times \pi/4d^2$

21.) Gross area of bolt is…… [ ]

A $\pi/4d^2$

B $0.78 \times \pi/4d^2$

C $0.77 \times \pi/4d^2$

D $0.79 \times \pi/4d^2$

22.) Number of shear planes in lap joint [ ]

A 1

B 2

C 3

D 4

23.) Number of shear planes in Single cover butt joint [ ]

A 1

B 2

C 3

D 4

24.) Number of shear planes in Double cover butt joint [ ]

A 1

B 2

C 3

D 4

25.) Design strength due to yielding is greater than rupture of critical section [ ]

a Yes

b No

c Both are interlinked

d None of these

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B. Tech– II-II Sem (MR 18) II Mid Examination Subjective Question Bank

Subject: INDUSTRIAL MANAGEMENT **Branch: ME**

Name of the faculty: M.Sameera Sarma, Rishikanth.N ,Vijay Krishna

Instructions: 1. All the questions carry equal marks

Q.No.	Question	Bloom's Taxonomy Level	CO
	Module-I		
1.	Name the concepts of management and explain them in detail?	Understanding	1
	OR		
2.	Explain the principles of fayol's management?	Understanding	1
3.	Explain about the theory X and theory Y?	Understanding	1
	OR		
4.	Explain about leadership styles?	Understanding	1
5.	Explain about entrepreneurship.	Understanding	1
	OR		
6.	Write about different human needs stated by Maslow for management?	Understanding	1
7.	Explain about functions of management indetail.	Understanding	1
	OR		
8.	Explain about scientific management theory of management.	Understanding	1
	Module II		
1.	Explain about organisation structures in-detail.	Understanding	2
	OR		
2.	Differentiate between line and functional organisation.	Understanding	2
3.	Explain 'Decentralisation' and what are the objectives of it?	Understanding	2
	OR		
4.	Explain Committee organisation and its merits & demerits.	Understanding	2
5.	Explain about flat organistion indetail.	Understanding	2
	OR		
6.	Explain about 'Departmentation' and what are the objectives of it?	Understanding	2
7.	Explain about team organisation structure with merits and demerits.	Understanding	2
	OR		
8.	Explain about matrix organisation structure in detail.	Understanding	2
	Module III		
1.	What is meant by plant layout and write its objectives?	Understanding	3

	OR		
2.	Explain the following terms a) Job production b) Batch production c) Mass production	Understanding	3
3.	Explain about different factors affecting plant location.	Understanding	3
	OR		
4.	Explain about operations management and its objectives.	Understanding	3

Signature of the faculty **HoD,ME**

Objective Question Multiple choice questions

Module – I

1. Scientific Management approach is developed by
    a) Elton Mayo
    b) Henry Fayol
    c) F.W. Taylor
    d) A. Maslow
2. "Hawthrone experiment" which was a real beginning of applied research in OB was conducted by
    a) Elton Mayo
    b) Henry Fayol
    c) F.W. Taylor
    d) Max Weber
3. Whose concept states that interpersonal and human relations may lead to productivity
    a) Elton Mayo
    b) Henry Fayol
    c) F.W. Taylor
    d) d. Max Weber
4. "---------- are social inventions for accomplishing goals through group efforts"
    a) Management
    b) Organization
    c) Leadership
    d) Behavior
5. Which of the following is/are the key features of organization
    a) Social invention
    b) Accomplishing goals
    c) Group efforts
    d) All of these
6. A study of human behavior in organizational settings is
    a) Individual behavior
    b) Group behavior
    c) Organizational behavior
    d) None of these
7. Process or administrative theory of organization is being given by
    a) Elton Mayo
    b) Henry Fayol
    c) F.W. Taylor
    d) Max Weber
8. Management is a ----------process
    a) Structural
    b) Organisational
    c) Operational

d) Motivation

9 Who proposed " **bureaucratic structure**" is suitable for all organization

a) Elton Mayo
b) Henry Fayol
c) F.W. Taylor
d) Max Weber

10 Which of the following does management not refer to

a. Social process
b) Exact science
c) omnipresent and universal
d) Situational in nature

11. Which of the following is not covered by the 4M's of management

a) Money
b) Materials
c) Manager
d) Machines

12 Which of the following is an environmental force that shapes personality?

a) Gender
b) Height
c) Experience
d) Brain size

13 Which one of the following Is an external stakeholder of the organization

a) informal organization
b) degree of centralization
c) formal organization
d) impact of technology

14 The term management does not connote which of the following

a) inter disciplinary in nature
b) Profession
c) Body of people involved in decision making
d) Omniscient

15 Which of the following is a challenge faced by the managers

a) sticking on to business ethics
b) good basic infrastructure
c) decreasing opportunities
d) Depleting financial and non financial resources

16. Which one of the following is not an element of planning

a. Objectives
b) Policies
c) Budgets
d) Analysis

17. According to henry fayol, management process covers all except

a) Organising
b) Commanding
c) Ordinating
d) Controlling

18. The process of determining the best course of action to achieve the given goals is called
    a) Organizing
    b) Planning
    c) Controlling
    d) Coordinating
19. Which one of the following ends with decision making
    a) Planning
    b) Organizing
    c) Implementing
    d) Coordinating
20. Which one of the following phrase best describes the management functions
    a. Omnipresent
    b. Omniscient
    c. Ubiquitous
    d. Permanent
21. Free rein leadership is also known as
    a) Democratic
    b) Autocratic
    c) Laissez-faire
    d) Bureaucratic
22. ----------is the attractiveness of the members towards the group or resistance to leave it
    a) Group norms
    b) Group behavior
    c) Group cohesiveness
    d) Group structure
23. Believes, attitudes, traditions and expectations which are shared by group members is called
    a) Group norms
    b) Group communication
    c) Group cohesiveness
    d) Group structure
24. ----------is the ability of influencing people to strive willingly for mutual objectives
    a) Motivation
    b) Control
    c) Leadership
    d) Supervision
25. In ----------leadership, there is a complete centralization of authority

in the leader

a) Democratic
b) Autocratic
c) Free rein
d) Bureaucratic

26 In---------- in fact “No leadership at all”

a) Democratic
b) Autocratic
c) Free rein
d) Bureaucratic

27. Grid Organization Development was developed by

a) Blake and Mounton
b) Elton Mayo
c) F W Taylor
d) Max weber

28. Who propounded X and Y theory of motivation

a) Maslow
b) F. Herzberg
c) Alderfer
d) Mc Gregor

29. ---------- theory believes that employees dislike work

a) X theory
b) Y theory
c) Z theory
d) None of these

30. According to ----------employees love work as play or rest

a) X theory
b) Y theory
c) Z theory
d) None of these

31. Z theory is a Japanese approach of motivation developed by

a) Mc Clelland
b) William Ouchi
c) Alderfer
d) Mc Gregor

32. According to ---------- the managers and workers should work together as partners and of equal
importance for the organizations success

a) X theory
b) Y theory
c) Z theory
d) 2 Factor theory

33. Which of the following is not a biographical characteristic?

a) political affiliation
b) Age

c) Sex
d) Tenure

34. ----------is an attitude reflects the extent to which an individual is gratified or fulfilled by his work
    a) Motivation
    b) Job satisfaction
    c) Contribution
    d) Cognitive dissonance
35. Maslow's "basic needs" are also known as
    a) Social needs
    b) Esteem needs
    c) Safety needs
    d) Physiological needs
36. In Maslow's Need hierarchy which needs are shown between Esteem needs and Safety needs
    a) Social needs
    b) Esteem needs
    c) Security needs
    d) Basic need
37. ERG theory of motivation was proposed by
    a) Maslow
    b) F. Herzberg
    c) Alderfer
    d) Mc Gregor
38. Under Herzberg's theory, factors causing dissatisfaction is called
    a) Demotivators
    b) Negative stimuli
    c) Hygiene factors
    d) Defectors
39. Hygiene factors are
    a) Satisfiers
    b) Maintenance factors
    c) Defectors
    d) All of these
40. In Two Factor theory, "Salary" coming under ----------
    a) Satisfiers
    b) Maintenance factors
    c) Both of these
    d) None of above a and b
41. Who propounded X and Y theory of motivation
    a) Maslow
    b) F. Herzberg
    c) Alderfer
    d) Mc Gregor
42. ---------- theory believes that employees dislike work

a) X theory
b) Y theory
c) Z theory
d) None of these

43. Which one is not a Need Based Theory of motivation?
a) Maslow's Theory
b) F. Herzberg's theory
c) Alderfer's theory
d) Vroom's theory

44. Who gave the two factor theory of motivations
a) Vroom
b) Herzberg
c) Fayol
d) Maslow

45. which one of the following is not one of the fayol's 14 principles of management
a) Authority
b) Remuneration
c) Decentralisation
d) unity of direction

46. Good natured, cooperative and trusting are the features of
a) Introversion
b) Agreeableness
c) Extroversion
d) Conscientiousness

47. Responsible, dependable, persistent and achievement oriented are features of
a) Introversion
b) Agreeableness
c) Extroversion
d) Conscientiousness

48. Imaginative, artistically sensitive etc. are features of
a) Openness
b) Agreeableness
c) Extroversion
d) Conscientiousness

49. What does "spirit de corps" stand for
a. team work
b. right thing in the right place
b) Initiation
a. avoiding frequent transfers

50. Which one of the following is not a financial factor in the motivation process
a) salary package
b) Bonus

c) flexible working hours
d) Allowances

MODULE-II

51. The obligation on the part of the subordinate to complete the given job is called
    a) Authority
    b) Power
    c) Reliability
    d) Responsibility

52 The process of transferring the authority from the top to the lower levels in the organization is called
    a) Authority
    b) Delegation
    c) Power
    d) Responsibility

53 What is the type of organization when the authority is delegated to the regional offices? ( )
    a) Centralized
    b) Decentralized
    c) Both
    d) None

54 Line organization is favored because of
    a) More scope for favoritism
    b) No scope for favoritism
    c) Flexibility
    d) No scope for the nepotism

55 Which one of the following is a demerit of the line organization?
    a. Simple to understand
    b. Facilitates quick decisions
    c. Each section is treated as a unit for control purpose
    d. Inability is likely due to lack of continuity

56 Which one of the following is a merit for the functional organization?

    a) Calls for more coordination
    b) Delays the decision making
    c) Offers better control
    d) Expensive in terms of time

57 Which one of the following refers to policies & procedures of the organization?
    a) Manual
    b) Book
    c) Journal
    d) Record

58 What refers to the effective control of a number of subordinates by a supervisor at a given point of time?

a. Management

b. Control of power
c. Span of control
d. Authority

59 What refers to the flow of authority from the management to every subordinate in the organization

a) Unit of command
b) Flow of authority
c) Span of management
d) Delegation of authority

60 Which one of the following is an example of organic structure of an organization?

a. Line and staff organization
b) Product organization
c) Virtual Organization
d) Matrix organization

61 **Departmentation leads to grouping of**

a) Activities
b) Personnel
c) Both 'A' and 'B'
d) None of the above

62 **The department can be created**

a) By function
b) By product
c) By process
d) All of the above

63 **The following is also known as Military organisation**

a) Line organisation
b) Functional organisation
c) Line and staff organisation
d) None of the above

64 **In hospitals, the following type of departmentation is common**

a) By function
b) By committee
c) By geographical region
d) All of the above

65 **In line organisation, the business activities are divided into following three types**

a) Accounts, Production, Sales
b) Production, Quality, Sales
c) Production, Quality, Maintenance
d) Production, Maintenance, Sales

66 **Which organisation structure is generally followed by big steel plants?**

a) Line organisation
b) Functional organisation
c) Line and staff organisation
d) All of the above

67 **Departmentation is a process where**

a) Tasks are grouped into jobs
b) Jobs are grouped into effective work groups
c) Work groups are grouped into identifiable segments
d) All of the above

68 **Organisation establishes relationship between**

a) People, work and resources
b) Customer, work and resources
c) People, work and management
d) Customer and work management

69 **In which of the following organisation structure, each specialist is supposed to give his functional advice to all other foremen and workers**

a) Line organisation
b) Functional organisation
c) Line and staff organisation
d) All of the above

70 **The process of dividing the work and then grouping them into units and subunits for the purpose of administration is known as**

a) Departmentation
b) Organisation structure
c) Committee
d) All of the above

71 **Organisation is a process of**

a) Identifying and grouping of work to be performed
b) Defining and delegating the responsibility and authority
c) Both ‘A’ and ‘B’
d) None of the above

72 **Responsibility always flows from**

a) Superior to subordinate
b) Subordinate to superior
c) Both ‘A’ and ‘B’
d) None of the above

73 **Authority always flows from**

a) Superior to subordinate
b) Subordinate to superior
c) Both ‘A’ and ‘B’

d) None of the above

74 **'No one on the organisation should have more than one boss' is a statement of**

a) Principle of specialisation
b) Principle of authority
c) Principle of unity of command
d) Principle of span of control

75 **The number of persons which can be effectively supervised by a single executive or departmental head should be limited to ___ in an average firm.**

a) Six
b) Ten
c) Fourteen
d) Twenty

76 **The following is not a principle of organisation**

a) Principle of exception
b) Principle of balance
c) Principle of complexity
d) Principle of co-ordination

77 **As per the principle of balance, there should be balance between**

a) The activities
b) Authority and responsibility
c) Standardisation of procedures and flexibility
d) All of the above

78 **The following is not a type of organisation structure**

a) Line organisation
b) Functional organisation
c) Line and staff organisation
d) Flexible organisation

79 Which of the following is a system

a) An organization
b) An automobile
c) A community
d) All

80 Organisational success in providing a service or a product depends on

a) doing product development faster than anyone else.
b) being the cheapest in the market.
c) having the first product or service in the market place.
d) the product or service being valued by a segment of society.

81 An organisation's mission is

a) the fundamental purpose of an organisation.

b) articulated in such a way that it defines the business of the enterprise
c) a concept for unifying the efforts of organisational members.
d) all of the above

82 Management is the practice of
a) recruiting and motivating talented people to work for your organisation.
b) increasing a firm's revenues and cutting costs to maximize profits.
c) directing, organizing, and developing people, technology, and financial resources.
d) mastering political behaviours so that the fittest survive and rise to the top.

83 What does a fire department, hospital, business, service club, and church all have in common?
a) They all have shareholders.
b) They all are organizations.
c) They all are closed systems
d) They all are growth oriented

84 What is not common to the purpose of an organisation?

a) Working to benefit multiple stakeholders.
b) Using a mission and goals to focus purpose.
c) Having first-line managers create superordinate goals.
d.)Organizing around ways of serving customers/clients

85 Organisational behaviour allows us to be more prepared to cope with the challenges ofmodern management and life in organisations. What do the practical applications of xbehavioural research tell managers?
a) Why humans are inherently ill-suited to the workplace.
b) How to improve the odds that their influence will be effective.
c) That common sense is the best guide for managers
d) How to program employees for peak performance through direct, precise application oftheoretical models.

86 What is the primary reason why you should study management and organizational behaviour?
a) The chances are high you will spend much of your life working for or within organisations.
b) It is fun to learn why people often do dumb things in organisations and how to prevent them.
c) The lessons of managerial success can be learned as seven basic habits of organizational behaviour.
d) The fastest way to become rich is by working for a firm that provides generous stock options.

87 An organisation's plans are usually most specific at what level?

a) The top
b) The middle
c) The bottom
d) They should be essentially equal in specificity at all levels of the organisation

88 Which of the following can be sources of organisational control?

a) Performance appraisals.
b) Organisational culture
c) Leadership
d) All of the above

89 What is the primary reason why you should study management and organizational behaviour?

a) The chances are high you will spend much of your life working for or within organisations.
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c) The lessons of managerial success can be learned as seven basic habits of organisationalbehaviour.
d) The fastest way to become rich is by working for a firm that provides generous stockoptions

90 When project requires integration of inputs from several functional areas, form would be

a) Pure Organization
b) Matrix organization
c) Mixed Organization
d) Virtual Organization

91. When an organization assigns specialists to group according to the projects they are working on, this is called

a) Divisional structure
b) Functional structure
c) Product structure
d) Matrix structure

92 Which of the following organizational forms may also be referred to as a project management structure

a) line structure
b) functional structure
c) line-and-staff structure
d) matrix structure

93 Marketing, production and management of distribution comes under category of

a) staff management
b) line management
c) marketing management
d) production management

94 An organization structure that consist of manager of HR, Finance and Accounts is anexample of a

a) Customer Departmentalization
b) Geographical departmentalization
c) Process departmentalization
d) Functional Departmentalization

95 Organizing aims to serve

a) common purpose
b) corruption,
c) authority structure,
d) All of the above.

96 Functional foremanship is the concept underlying the following organization

a) Matrix
b) Functional
c) Product
d) Divisional

97 Design engineers at Ford advise production personnel about what products to use in making a product. This is an example of _____ authority.

a) Staff
b) Group
c) Line
d) Line and Staff

98 A cross functional organizational structure in which individuals performing one function, such as accounting, are to the senior executive in finance and also to another senior executive in a geographical, product, or customer department is called:

a) line organization
b) matrix form.
c) informal organization
d) bureaucratic organization

99 A position to which decision-making authority has been delegated within the chain of command from senior managers to front line production or service employees is called

a) line position
b) staff position
c) departmentalization.
d) line & staff positions

100 People who work in the Human resource department should have a knowledge of

a) organisational behavior
b) IT

c) Finance
d) Marketing

MODULE-III

101. **The profit of an enterprise can be increased by**
a) Reducing total costs of production
b) Increasing sales value
c) Increasing capital cost
d) Increasing manpower

102. **Which of the following industries should be located near the vicinity of raw materials?**

a) Cycles
b) Televisions
c) Sewing machines
d) Steel mills

103 **For which of the following industry humid climate is helpful**

a) Cotton
b) Steel
c) Light Bulb
d) Automobile

104 **What is the location of lower control limit in the X bar-R control chart?**
(A) 3 standard deviations below central line
(B) 2 standard deviations below central line
(C) 1 standard deviations below central line
(D) Any of the above

105 **Which kind of labour force is required in case of Jobbing Production?**
(A) Highly Skilled
(B) Semi skilled
(C) Unskilled
(D) Any of the above

106 **Which of the following is not true for Multi-storey building?**
High heating and ventilation cost

Small ground runs for drainage
Adopted for manufacture of light goods
Less roof repairs

107 **Which of the following is not the characteristic of Project Production?**
(A) Continuous flow of material
(B) Highly mechanised material handling
(C) Virtually zero manufacturing cycle time
(D) All of the above

108 **If all the processing equipment and machines are arranged according to the sequence of operations of a product the layout is known as**

a) Product layout
b) Process layout
c) Fixed position layout
d) Combination layout

109 **The following type of layout is preferred to manufacture a standard product in large quantity**

a) Product layout
b) Process layout
c) Fixed position layout
d) Combination layout

110. **The following type of layout is preferred for low volume production of non standard products**

a) Product layout
b) Process layout
c) Fixed position layout
d) Combination layout

111. **In ship manufacturing, the type of layout preferred is**

a) Product layout
b) Process layout
c) Fixed position layout
d) Combination layout

112. **This chart is a graphic representation of all the production activities occurring on the shop floor**

a) Operation process chart
b) Flow process chart
c) Templates
d) All of the above

113. Objective of plant layout is

a) minimum material handling
b) minimum equipment utilization
c) minimum manpower utilization
d) minimum utilization of floor area

114. The most important objective behind plant layout is

a) Overall simplification and ease in integration of various functions
b) Economy in machines
c) Maximum travel time in plant
d) Minimum work-in-progress

115. A low unit cost can be achieved by following

a) Process layout
b) Product layout
c) Fixed position layout
d) Functional layout

116. The pattern of plant layout is basically divided by the relationship between the ---------- and ---

a) Commercial Printer
b) Plastic Part Manufacturer
c) Consumer Electronics
d) Number of products, Production quantity

117. The location of plant should be in such a place where the ---------- are available
a) Larger production cycle
b) Higher material handling costs
c) Interesting to workers
d) Large scale economics

118. Flexibility cannot be achieved with
a) Moveable equipment
b) Inexpensive equipment
c) Sophisticated electronic equipment
d) Immovable equipment

119. A common goal in process layouts is to
a) Minimize transportation distance
b) Maximize distance between departments
c) Standardize processes
d) Convert to cellular layout as often as possible

120. Conveyors are suitable for _____ production in _____ routes
a) Standardize processes
b) Convert to cellular layout as often as possible
c) Share personnel
d) Mass, fixed

121. For lifting heavy jobs in a shop, _____are made use of
a) Overhead cranes
b) bridge crane
c) monorail
d) True

122. Which layout facilitates high degree of automation to minimize fatigue and error?
a) Product layout
b) Process layout
c) Flexible layout
d) Fixed layout

123. For ship vessel industry the following layout is best suited:
a) Process layout
b) Product layout
c) Fixed position layout
d) Plant layout

124. _____ is concerned with the orderly storage and issuing of finished goods.
a) tool room

b) receiving area
c) shipping area
d) warehousing area

125 **Inadequate production capacity ultimately leads to**

(A) Poor quality

(B) Poor Customer Service

(C) Poor inventory control

(D) All of the above

Signature of the faculty **HoD,ME**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech III– IISem (MR 17)
I Mid Examination Subjective Question Bank

Subject:Professional Ethics **Branch: MECH**
Name of the faculty:Mrs.P. Shanthi Priya

Q. No.:	Questions	Bloom's Taxonomy Level	CO
	Module I		
1.	What is meant by professional responsibility and discuss theories about virtue?	Remembering	1
	OR		
2.	What are the basic ethical principles?	Remembering	1
	OR		
3.	Explain with example the various ethical theory available for "right of action"?	Understand	1
	OR		
4.	Explain the need of Consensus and Controversy?	Understand	1
5.	Give the various tests required to evaluate the Ethical Theories?	Understand	1
	OR		
6.	Write a short note on professional ethics.	Understand	1
	OR		
7.	Distinguish values from ethics and culture.	Understand	1
	OR		
8.	Explain with examples the issues linked up with values and ethics in various professions.	Understand	1
	Module II		
1.	What do you understand by term moral dilemma? Differentiate with moral autonomy?	Remembering	2
	OR		
2.	Enumerate the code of ethics of engineer?	Understand	2
3.	What are the function and limitation of code of ethics?	Remembering	2
	OR		
4.	Enumerate on oral issue and type of inquiry?	Remembering	2

5.	Discuss the role and importance of ethics in engineering?	Remembering	2
	OR		
6.	What are the steps in confronting Moral Dilemmas?	Understand	2
7.	What are the Senses of Engineering Ethics?	Understand	2
	OR		
8.	Give the importance of Lawrence Kohlberg‟s and Carol Gilligan‟s theory?	Understand	2
	Module III		
1.	What are the central elements of collegiality?	Remembering	3
	OR		
2.	What is the relationship between the loyalty to the company and Professional responsibility to the public?	Remembering	3
	OR		
3.	Why does a conflict of interest arise?	Understand	3
	OR		
4.	Write about ethical egoism.	Understand	3

Signature of the Faculty **Signature of the HoD**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech– II Sem (MR 17-2019-20 Admitted Students)

I Mid Examination Subjective Question Bank

Subject: Professional Ethics **Branch: MECH**

Name of the faculty:Mrs.P. Shanthi Priya

OBJECTIVES

Module 1

1. Which of the following is defined as the duty, obligation or even authority
   [ ]
   a) a)Work
   b) Responsibility
   c) Democracy
   d) authority
2. A group of people working together to get a surplus is
   [ ]
   a) organization
   b) routline
   c) .system
   d) military
3. It is a multipurpose organ that manages a business and manages managers and manages work and the workers. This was stated by .
   [ ]
   a) hellrigel
   b) peter drucker
   c) harold koontz
   d) FW taylor
4. Any business that has productive activities in two or more countries is called a
   [ ]
   a) Multinational enterprise.
   b) Multiglobal enterprise.
   c) Multilocational enterprise.
   d) Multilevel firm.
5. Which of the following actions will likely lead to organizational ethical behavior?
   [ ]
   a) promoting moral courage
   b) developing strong governance processes
   c) establishing an ethics office
   d) all
6. The quest to maximize profitability should be constrained by:
   [ ]
   a) Ethical obligations.
   b) Unethical obligations.
   c) Stakeholders.
   d) Lack of social responsibility.

7. _____ Behavior tends to arise when mangers decide to put the attainment of their own personal goals, or the goals of the organization, above the fundamental rights of one or more [ ]
Stakeholder groups.
a) Complementary
b) Situational
c) Unethical
d) Confusing

8. Accepted principles of right or wrong governing the conduct of businesspeople are called: [ ]
Choose one answer.
a) Business values.
b) Business conduct.
c) Business ethics.
d) Business principles.

9. Planning is a primary function of :
a) Front-line staff.
b) The accounting department.
c) Management.
d) The marketing department.

10. In the case of a business enterprise, the major goals at the top of the organizational hierarchy are [ ]
a) Revenue.
b) Asset turnover.
c) Expenses saved.
d) Profitability.

11. A written statement of policies and principles that guides the behavior of all employees is called [ ]
a)code of ethics
b) word of ethics
c)ethical dilemma
d) none

12. An empirical inquiry into the actual rules or standards of a particular group is [ ]
a)normative justice
b) descriptive justice
c)interpersonal justice
d) none

13. _____is defined as the right of a person to guide [ ]
a) Democracy
b) Responsibility
c) Freedom
d) autonomy

14. The language to communicate should be [ ]

Properly defined
a) Clear
b) Precise
c) Both b and c
d) None

15. Violating the rules of organization is [ ]
    a) Unethical behavior
    b) Ethical behavior
    c) Friendly
    d) None of the above
16. An engineer whether he works for the company or individual should posses [ ]
    a) Goals
    b) Willingness
    c) Ethics
    d) Interests
17. Engineering ethics is the study of [ ]
    a) Decisions, ethics and values
    b) Morals , responsibilities , duty
    c) Both a and b
    d) none
18. Engineering is the process of developing [ ]
    a) Efficient people
    b) Efficient mechanism
    c) Resources
    d) Technology
19. Before concluding the argument has to be [ ]
    a) Assessed
    b) Comprehended
    c) Both a and b
    d) None of the above
20. Tolerance to diversity means [ ]
    a) Genuine concern
    b) Broadly seeing issue
    c) Narrow issue
    d) Facts based
21. A nursing instructors teaching nursing students about principles of ethics in health care, and she tells them that the utmost important principle to observe while taking care of patient is doing no harm. [ ]

    The principle of Ethics she described here:

    a) Beneficence
    b) Justice
    c) Non maleeficience
    d) Respect for autonomy

22. According to most Provincial and Territorial Acts, which activity by a professional member would be considered UNETHICAL? [ ]
    a) Not charging a fee for presenting a speech
    b) Signing plans prepared by an unknown person without thoroughly reviewing those plans
    c) Reviewing the work of another member with that member's consent
    d) Providing professional services as a consultant
23. Which of the following is an example of a fraudulent, contractual misrepresentation? [ ]
    a) A party is coerced into signing a contract by means of intimidation
    b) A party knowingly makes false statements to induce another party into a contract
    c) A party induces his son-in-law to sign an unfair contract
    d) A party unknowingly provides false information about a portion of a contract
24. Contractual disputes of a technical nature may be most expeditiously and effectively solved [ ] through:
    a) Lawsuit
    b) Court appeals
    c) Contract renegotiations
    d) Arbitration
25. Which of the following is the most common job activity of top-level managers? [ ]
    a) Writing and reading corporate financial reports
    b) Developing and testing new products
    c) Designing and implementing production systems
    d) Directing and interacting with people
26. To effectively reduce liability exposure, the professional engineer or geoscientist should: [ ]
    a) Pursue continuing educational opportunities
    b) Work under the supervision of a senior engineer or geoscientist
    c) Maintain professional standards in practice
    d) Provide clients with frequent progress reports
27. The professional's standard of care and skill establishes the point at which a professional: [ ]
    a) May or may not charge a fee for services
    b) Has the duty to apply "reasonable care"
    c) May be judged negligent in the performance of services
    d) Has met the minimum requirements for registration
28. Which type of original work below is automatically protected by copyright upon creation? [ ]
    a) Paintings
    b) Inventions
    c) Clothing designs
    d) Signatures
29. The observable symbols and signs of an organization's culture [ ]
    a) Its cultural design

b) Art craft
c) Its cultural formatting
d) None

30. The values and assumptions shared within an organization is called organizational [ ]
a) Values
b) DNA
c) Life style
d) Culture

Module-2

2. The ability and willingness to be morally reasonable that one should have is known as [ ]
a) Moral reasonable ness
b) Respect
c) Moral coherence
d) Tolerance

3. Tolerance to diversity means [ ]
a) Genuine concern
b) Broadly seeing issue
c) Narrow issue
d) Facts based

4. Moral conflicts can be resolved by [ ]
a) Better communication
b) Proper understanding of issues
c) Honesty
d) Interest

5. Being honest and having strong moral principles means [ ]
a) Integrity
b) Moral hope
c) Moral awareness
d) coherence

6. Micro ethics means [ ]
a) Small issues
b) Daily issues
c) Engineering issues
d) Both a & b

7. Macro means [ ]
a) Known issues
b) Unknowns issues
c) National issues
d) State issues

8. Inquiry means
[ ]
   a) Procedure
   b) Investigation
   c) Process
   d) Understanding
9. Normative inquiry refers to
[ ]
   a) What one ought to do
   b) Public issue
   c) Information gathering
   d) Guidelines

10. Conceptual inquiry means
[ ]
   a) Description and meaning of concepts
   b) Allocating facts
   c) Decision making
   d) Precaution inquiry

11. Descriptive inquiry means
[ ]
   a) Finding solutions
   b) Facts based
   c) Solution based
   d) Theory based
12. The moral reasons can be
[ ]
   a) Rights , duties, values
   b) Good bad and obligations
   c) Moral dilemmas
   d) Value based
13. Vagueness refers to
[ ]
   a) Action refers to bad
   b) Action refers to good or bad
   c) Action refers to wrong
   d) None of the above
14. The making the better choice from the ones you had will lead to _____ conflict
[ ]
   a) Internal
   b) Ethical conflict
   c) External.
   d) None of the above
15. When there are two nor more solutions and none of them is mandatory then it is called
[ ]
   a) Conflicting reason
   b) Vagueness
   c) Disagreement

d) Solution

16. Understanding the issue thoroughly can lead to lessen
[ ]
a) Moral dilemma
b) Moral issues
c) Moral facts
d) All the above

17. The duties and the responsibilities of the persons involved should be
[ ]
a) Clearly known
b) Precise
c) Definite
d) Unknown

18. The moral factors related to the issues are to be
[ ]
a) Understood
b) Facts bases
c) Clear
d) None of the above

19. Moral autonomy is
[ ]
a) Self obligation
b) Self governing
c) Self appreciation
d) Influence

20. Ability to relate the problems with the problem flow economics is called
[ ]
a) Religious principle
b) Ethical principle
c) Moral autonomy principle
d) Facts based principle

21. ---------- proposed Kohlberg theory
[ ]
a) Lawrence Kohlberg
b) F.W Taylor
c) John wick
d) Henry fowl

22. To make sure that an organization is working efficiently and in a manner consistent with
[ ]
Its intended strategy manager's use:
a) Controls
b) Coercion
c) Financial statements
d) Substandard

23. What was the name of the first personate describe bureaucratic controls
[ ]
a) Max Weber
b) Peter drucker
c) Jack Welch
d) Adam smith

24. Cost advantages derived from a large scale volume are called as economies of
[ ]

a) Location
b) Scale
c) Scope
d) Density

25. A unique strength that rivals a lack is called
[ ]

a) Distinctive competency
b) Scope advantage
c) Horizontal advantage
d) Legacy constraint

26. Plans that addresses a unique events that do not reoccur Is called:
[ ]

a) Standing plans
b) Single use plans
c) Operating plan
d) Strategic plan

27. Planning includes which of the following step
a) Identifying actions
b) Choosing goals
c) Reviewing performance
d) All the above

28. The normative sense includes:
[ ]

a) Knowing of moral values
b) Identifying solutions for problems
c) Study of values
d) All the above

29. Employer acting with double behavior towards the employees and public comes under:
[ ]

a) Opportunity
b) Resource crunch
c) Attitude
d) none

30. ethical egoism come under:
[ ]

a) normative ethical position
b) descriptive ethic
c) virtue ethics
d) all the above

Module -3

1. Moral conflicts can be resolved by
[ ]
a) Better communication
b) Proper understanding
c) Honesty
d) Interest
2. Being honest and having strong moral principles means
[ ]
a) Integrity

b) Moral hope
c) Moral awareness
d) Coherence

3. Micro ethics means
[ ]
a) small issues
b) daily issues
c) both a & b
d) engineering issues

4. Cared based morality is based on
[ ]
a) Men
b) Women
c) Both a and b
d) None of the above

5. Pre conventional level is generally found at
[ ]
a) Organizations
b) Moral development
c) Elementary school level
d) None of the above

6. The judgments are to be judged based on
[ ]
a) Socially accepted norms
b) Which are not true
c) Value based
d) None of the above

7. Conventional level is knows
[ ]
a) Elementary level
b) Primary and high school
c) Pre primary
d) Unknown

8. Post-conventional is found out at
[ ]
a) School level
b) College level
c) After school level
d) College level

9. Gilligan theory is based on
[ ]
a) Female thinking
b) Society thinking
c) Male thinking
d) Both a and b

10. In the women point of view moral development involves
[ ]
a) Decision making
b) Caring
c) Disrespecting
d) Accepting
e)

11. Reviewing the standard procedure of the company means
[ ]
a) Seeing what organization is doing
b) Allocating work
c) Ethical confrontation
d) Understanding the policies and procedures of the company
12. After evaluating options one should look for
[ ]
a) The worst option
b) The accurate one
c) The best ones
d) The least ones
13. The best option should address the ethical issue in a ---------
[ ]
a) Critical manner
b) Productive manner
c) Profit manner
d) Both a and b
14. Objectively reviewing the report means
[ ]
a) Formally written document
b) Verbal note
c) Document based
d) None of the above
15. Do not involve -------- and -------- with the parties involved affect judgments
[ ]
a) Factual and personal
b) Personal
c) Personal and professional
d) Both a and b
16. -------the circumstances again and again to find out the facts is a part of
[ ]
a) Reviewing
b) Concepting the issue
c) Finding the issue
d) Creating the issue
17. Brainstorm means
[ ]
a) Ethical thinking
b) Fun thinking
c) Critical thinking
d) Optimum thinking
18. Ask for external support is asking for
[ ]
a) Spoiling the case
b) Not solving the case
c) Helping
d) Both a and b
19. A person who is loyal is called a
[ ]
a) Loyal person
b) Honest person

c) Bureaucratic person
d) Awful person

20. Gathering as much as information about the issues is a part of
    a) Resolving issue
    b) Arising issues
    c) Discussions
    d) Values

Signature of the faculty **HoD,ME**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

B.Tech– III-II Sem (MR 17)
I Mid Examination Subjective Question Bank

Subject: Transportation Engineering **Branch:** Civil
Name of the faculty: Gayatri.U , Ch. Kalyani

Instructions:

1. All the questions carry equal marks

2. Solve all the questions

Q.No.	Question	Bloom's Taxonomy Level	CO
1.	Explain briefly the recommendations of Jayakar Committee for the systematic and scientific highway development in India?	Understanding	1
	OR		
2.	Explain Briefly outline the important features of the Nagpur Road plan.	Understanding	1
3.	Explain Classification of Roads and what are the Engineering surveys carried for construction of a highway project.	Understanding	1
	OR		
4.	Explain with neat sketch various road patterns.	Understanding	1
5.	Explain highway alignment and factors influence the final alignment of a highway.	Understanding	1
	OR		
6.	Explain briefly concept of highway development in India.	Understanding	1
7.	Identify and explain the important features of the Lucknow Road plan.	Applying	1
	OR		
8.	Identify and explain the important features of the Bombay Road plan.	Applying	1
Module II			
1.	Explain Overtaking Sight Distance. With neat sketch derive an expression for computing OSD for different road conditions.	Understanding	2

	OR		
2.	Explain Super elevation. With neat sketch derive an expression for it.	Understanding	2
3.	The design speed of a highway is 80kmph. There is a horizontal curve of radius 200m on a certain locality. Safe limit of transverse coefficient of friction is 0.15.Solve for the Super elevation required to maintain this speed	Applying	2
	OR		
4.	The speed of overtaking and overtaken vehicles are 80 and 50 kmph, respectively on a two lane traffic road. If the acceleration of overtaking vehicle is 0.99 m/s^2. Solve for overtaking sight distance. Minimum length of overtaking zone. Draw a neat sketch of overtaking zone and show the positions of the sign posts.	Applying	2
5.	Explain summit and valley curves and various cases when these curves are formed while two gradients meet.	Understanding	2
	OR		
6.	Explain the important pavement surface characteristics with respect to highway geometric design?	Understanding	2
7.	A national highway passing through rolling terrain in heavy rainfall area has a horizontal curve of radius 500m. Model the length of transition curve assuming suitable data.	Applying	2
	OR		
8.	A state highway passing through a rolling terrain has a horizontal curve of radius equal to the ruling minimum radius. Model all the geometric features of this curve assuming suitable data.	Applying	2
Module III			
1.	Explain in detail CBR test with help of diagram.	Understanding	3
	OR		
2.	Explain briefly the principle of the various tests on road aggregates; specify the desirable values of test result.	Understanding	3
3.	Explain the desirable properties of bitumen. Compare tar with bitumen	Understanding	3
	OR		
4.	Explain briefly any one test carried on bitumen.	Understanding	3

Signature of the Faculty **Signature of the HoD**

MALLAREDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.TECH II SEM
1st MID EXAM QUESTIONS

Subject: Transportation Engineering

Branch: Civil Engineering Name Of the Faculty: Gayatri.U, Ch.Kalyani,

OBJECTIVE QUESTIONS

1. The first long term(20 years) road development plan for India was drawn and is known as [ ]
   a Lucknow plan
   b Bombay plan
   c Nagpur plan
   d Warangal plan

2. One of the Major recommendation made by Jayakar Committee was formation of semi official body called as Indian Road Congress which was in the year [ ]
   a 1929
   b 1934
   c 1951
   d 1928

3. Nagpur Road plan was based on pattern called as [ ]
   a Star & Grid
   b Star
   c Square
   d Circle

4. The roads in India were greatly improved during the period of [ ]
   a Pathan
   b Mughal
   c both
   d none of these

5. Nagpur Road Plan or First 20 year Road Plan was finalized in 1943 in [ ]
   a Mumbai
   b Nagpur
   c Pune
   d Hyderabad

6. Highway development in India [ ]
   a Roads in Ancient India
   b Roads in Mughal Period

c Roads in nineteenth Century
d All of these

7. The basic requirements of an ideal alignment between two terminal stations are [ ]
a short
b easy
c safe and economical
d All of above

8. Which survey should be carried out for collecting the information regarding necessary for the preparation of plans and construction details for the highway project [ ]
a Detailed
b Preliminary
c Reconnaissance
d Traffic

9. The sequence of four stage of survey in a highway alignment is [ ]
a Reconnaissance, map study, preliminary survey and detailed survey.
b Map study, preliminary survey and reconnaissance detailed survey
c Map study, reconnaissance, preliminary survey and detailed survey
d Preliminary survey, Map study, reconnaissance, and detailed survey

10. Classification of roads as per Nagpur Road Plan is [ ]
a National & State Highways
b Major District Roads & Other Roads
c Village roads
d All of above

11. Bombay Road Plan finalized in [ ]
a 1959
b 1936
c 1951
d 1928

12. National transport policy committee(NTPC) [ ]
a 1929
b 1978
c 1971
d 1976

13. Third twenty year plan
a 1981-2001 [ ]
b 1982-2002
c 1980-2001
d 1928-2001

14. Delhi-Ambala-Amritsar is [ ]
a NH-2
b NH-3

c NH-1
d NH-44

15. National highways covers how much percentage in India [ ]
a 2%
b 3%
c 5%
d 6% [ ]

16. Utility unit for population less than 500 is
a 0.25
b 0.5
c 1
d 2

17. Stages of engineering surveys are [ ]
a Map
b Reconnaissance
c Preliminary
d All

18. The size of index map should be [ ]
a 32x20
b 31x20
c 30x20
d 20x32

19. For land acquisition plans which scale is adopted [ ]
a 1cm=40m
b 1cm=100m
c 1cm=1000m
d 1cm=10000m

20. In hill roads additional care has to be given for [ ]
a Stability
b Drainage
c Length
d All

21. Central road fund was formed in the year [ ]
a 1929
b 1960
c 1930
d 1970

22. M.R.Jayakar was appointed as Chairman of Indian road development committee in the year [ ]
a 1927
b 1929

c 1950
d 1961

23. Jayakar committee submitted their recommendations in the year [ ]
a 1927
b 1934
c 1928
d 1950

24. C R R I Was Established In The Year [ ]
a 1950
b 1934
c 1928
d 1929

25. I R C Was Formed In The Year [ ]
a 1934
b 1928
c 1927
d 1947

26. For The Administration Of Road Transport, A Motor Vehicle Act Was Enacted In [ ]
a 1927
b 1934
c 1939
d 1947

27. The Period Of Long Term Plan For The Development Of Roads In India Known As Bombay Plan [ ]
a 5 Years
b 10 Years
c 20 Years
d 25 Years

28. The First Stage Of Deciding The Alignment Of A Hill Road Is [ ]
a Preliminary Survey
b Trace-Out
c Detailed Survey
d Reconnaissance

29. Reconnaissance Is Best Done With The Help Of [ ]
a Aerial Photographical Surveys
b Cadastral Surveys
c Topographic Survey
d None Of These

30. The Road Connecting A City To Highway Is Called [ ]
a Arterial Street
b Sub Arterial Street

c Collector Street
d Local Street

31. The Star And Grid Pattern Of Road Network Was Adopted In [ ]
a Nagpur Road Plan
b Lucknow Road Plan
c Bombay Road Plan
d Delhi Road Plan

32. Highways Communication Is A Communication [ ]
a By Land
b By Water
c By Air
d None Of The Above

33. I R C Means [ ]
a Indian Roadways Corporation
b Indian Road Congress
c Indian Railway Congress
d None Of The Above

34. Border Roads Organisation for hilly regions, was formed in [ ]
a 1947
b 1954
c 1958
d 1960

35. The road foundation for modern highways construction, was developed by [ ]
a Tresguet
b Telford
c Macadam
d Telford and Macadam simultaneously.

36. The period of long term plan for the development of roads in India, known as Bombay Plan is [ ]
a 5 years
b 10 years
c 15 years
d 20 Years

37. Pick up the correct statement from the following: [ ]
a During reconnaissance, the general route of the alignment is selected
b After reconnaissance, a trace is cut for the alignment
c Last stage is the detailed surveys for desired geometries'of the highway
d All the above

38. Deviation of the alignment of a trace cut may be permitted in areas involving [ ]
a Land Slides
b Sand Dunes
c Dens
d None Of These.

39. According to the recommendations of Nagpur Conference, the width formation of an ideal National Highway in hard rock cutting, is [ ]
   a 8.9 m
   b 7.9 m
   c 6.9 m
   d 6.5 m
40. In India the modes of transportation, in the order of their importance, are [ ]
   a Air Transport, Shipping, Roads, Railways
   b Shipping, Roads, Railways, Air Transport
   c Roads, Railways, Air Transport, Shipping
   d Railways, Roads, Shipping, Air Transport

41. The wall constructed for the stability of an excavated portion of a road on the hill side, is known as [ ]
   a Retaining Wall
   b Breast Wall
   c Parapet Wall
   d All The Above.

42. The width of different roads as recommended in Nagpur plan by the Indian Road Conference for hilly region, is [ ]
   a Same For National Highways
   b Different For National Highways
   c Same For State Highways
   d Same For Major District Roads.
43. For the administration of road transport, a Motor Vehicle Act was enacted in [ ]
   a 1927
   b 1934
   c 1939
   d 1947
44. The normal road width of National and State highways [ ]
   a Is Kept 45 M

   b In Plain And Rolling Terrain Built-Up Area, Is 30 M

   c In Mountainous Built-Up Area Is 20 M
   d All The Above.
45. Stability of hill slopes depends upon [ ]
   a Nature Of The Slope
   b Angle Of The Slope
   c Geological Conditions

d All The Above.

46. The first stage of deciding the alignment of a hill road, is [ ]
a Reconnaissance
b Detailed Survey
c Trace-Out
d Preliminary Survey.

47. The inventor of road making as a building science, was [ ]
a Sully
b Tresguet
c Telford
d Macadam.

48. Reconnaissance is best done with the help of [ ]
a Aerial Photographic Survey
b Cadastral Surveys
c Topographical Surveys
d Triangulation Surveys

49. An Executive Engineer of roads, executes works under direct control of [ ]
a Superintending Engineer
b Secretary to the Govt
c Chief Engineer
d None of these.

50. The wall constructed for the stability of a back filling portion of a road on the down hill side, is known as [ ]
a Retaining Wall
b Breast Wall
c Parapet Wall
d All The Above

51. The design of horizontal and vertical alignments, super elevation, gradient is worst affected by [ ]
a Length of vehicle
b Width of vehicle
c Speed of vehicle
d Height of vehicle

52. The most raised portion of the pavement is called [ ]
a Super elevation
b Camber
c Crown

d Kerb

53. The extra width of pavement is provided on [ ]
a Horizontal curve
b Width of pavement
c Length of pavement
d Elevation

54. Transition curve is introduced in [ ]
a Horizontal curve
b Circular curve
c Between horizontal curve and circular curve
d Vertical curve

55. The most important factor that is required for road geometrics is [ ]
a SSD
b OSD
c ISD
d Speed of vehicle

56. The design speed of NH on a cross slope of up to 10% is [ ]
a 100kmph
b 80kmph
c 60kmph
d 50kmph

57. A part of pavement raised with respect to one side keeping the other side constant is called [ ]
a Footpath
b Kerb
c Super elevation
d Camber

58. The main purpose of providing camber is [ ]
a To collect storm water
b To maintain equilibrium
c To follow IRC specifications
d To follow geometric specifications

59. The legal axle load of the design vehicle used in India is [ ]
a 1.6 tonne
b 8.2 tonne
c 16.2 tonne
d 32.4 tonne

60. In India the type of traffic assumed to design pavements is [ ]
a Low traffic
b Heavy traffic
c Mixed traffic flow

d Very low traffic

61. The braking efficiency mainly depends on [ ]
a Sight distance
b PIEV theory
c Friction
d Length of the curve

62. The braking efficiency for a vehicle moving with a speed of 18kmph, having a lag distance of 14m and coefficient of longitudinal friction is 0.36 [ ]
a 25.28%
b 25.40%
c 25.60%
d 25.80%

63. If the camber is X%, then cross slope is [ ]
a 100X
b 200/X
c X/100
d 100+X

64. The camber required depends on [ ]
a Type of pavement
b Rainfall
c Type of pavement and rainfall
d Rainfall characteristics

65. The minimum camber required in heavy rainfall area for bituminous roads as per IRC is [ ]
a 1%
b 2.50%
c 2.70%
d 3%

66. The camber is not provided in which of the following shape [ ]
a Straight
b Parabolic
c Combination of straight and parabolic
d Circular

67. The rise of crown for a pavement of 7m wide having 1 in 50 slopes with respect to edges is [ ]
a 0.14
b 0.07
c 0.09
d 0.11

68. The equation of parabolic camber is given by [ ]

a $Y=x/nW$

b $Y=x^2/nW$

c $Y=2x^3/nW$

d $Y=2x^2/nW$

69. The minimum width of carriage way in urban roads is [ ]

a 2.5m

b 3.0m

c 3.5m

d 3.75m

70. A median is also called as [ ]

a Traffic separator

b Traffic junction

c Traffic check post

d Traffic flow

71. The desirable width as per IRC for median on rural roads is [ ]

a 3m

b 5m

c 8m

d 14m

72. The minimum shoulder width recommended by IRC is [ ]

a 1.0m

b 1.5m

c 2.0m

d 2.5m

73. The width of formation is calculated by adding [ ]

a Sum of width of pavements

b Width of pavement+ separators

c Width of pavement +shoulders

d Width of pavement + separator+ shoulders + side drains

74. The boundary till which building activities are prohibited is called [ ]

a Right of way

b Boundary line

c Building line

d Control line

75. The normal width recommended in rural areas by IRC for national highway is [ ]

a 45m

b 29 m

c 60 m

d 25 m

76. The length visible to driver at any instance of time is called [ ]

a Sight distance

b Visibility limit
c Head light distance
d Overtaking sight distance

77. The stopping sight distance does not depend on [ ]
a Break reaction time
b Speed of vehicle
c Length of vehicle
d Friction

78. The SSD is based on [ ]
a Speed of vehicle
b PIEV theory
c Voluntary action of brain
d Reflex action of brain

79. The reaction time considered in SSD is [ ]
a 1.5 sec
b 2 sec
c 2.5 sec
d 3 sec

80.. If the speed of overtaken vehicle is 80Kmph, then the design speed is [ ]
a 80kmph
b 96kmph
c 100kmph
d 106kmph

8 The reaction time of a driver assumed in OSD is [ ]
a 1 sec
b 2 sec
c 2.5sec
d 3 sec

82. The height of the driver above the road level is assumed as [ ]
a 1.1m
b 1.2 m
c 1.5 m
d 1.6m

83. The ratio between centrifugal force and weight of the vehicle is called [ ]
a Impact factor
b Impact ratio
c Centrifugal factor
d Centrifugal impulse

84. The super elevation is calculated for [ ]
a 75% of design speed including friction
b 80% of design speed neglecting friction
c 75% of design speed neglecting friction

d 80% of design speed including friction

85. If the super elevation is 0.07 and width of pavement is 7m then the raise of outer edge with respect to inner edge is [ ]
a 0.47m
b 0.48m
c 0.49m
d 0.50m

86. The extra widening is the sum of [ ]
a Mechanical widening and psychological widening
b Two times of mechanical widening
c Two times of psychological widening
d Mechanical widening – physical widening

87. The length of wheel base usually considered in India is [ ]
a 6.1m
b 5.9m
c 5.8m
d 5.5m

88. The most preferred type of transition curve by IRC for highway is [ ]
a Spiral
b Cubic parabola
c Parabola
d Lemniscate

89. The minimum value of change of centrifugal acceleration is [ ]
a $0.4m/sec^3$
b $0.5m/sec^3$
c $0.6m/sec^3$
d $0.7m/sec^3$

90. The total shift of a transition curve is [ ]
a $L^2/12R$
b $L^2/24R$
c $L^2/48R$
d $L^2/96R$

91. The ruling gradient required for plain or rolling terrain is [ ]
a 1 in 15
b 1 in 20
c 1 in 30
d 1 in 40

92. The angle which is measured at the change of direction of two gradients is called [ ]
a Standard angle
b Subtended angle
c Deviation angle

d Setback angle

93. The length of summit curve is based on [ ]
a Comfort
b Sight distance
c Convexity
d Deviation angle

94. The equation for L<OSD for summit curve is given by [ ]
a NS/8H
b $NS^2/8H$
c $NS^2/10H$
d $NS^2/12H$

95. The vertical alignment does not influences [ ]
a Sight distance
b Vehicle operation cost
c Accidents
d Vehicle speed

96. The value of “a” in the equation y=ax2 used in the summit curve is [ ]
a N/2L
b N/3L
c N/4L
d N/5L

97. The total off tracking of a vehicle having wheel base length as 6.1m and radius of curve 120m is [ ]
a 0.15
b 0.151
c 0.153
d 0.155

98. The mechanical widening of a curve is 1.5m, the curve is having a radius of 120m and design speed as 80kmph find the total widening on the curve [ ]
a 2.20m
b 2.26m
c 2.25m
d 2.24m

99. The rate of change of acceleration in m/sec^3 for a design speed of 85kmph is [ ]
a 0.5
b 0.6
c 0.7
d 0.8

100. Which of the following is equal to super elevation? [ ]
a Sinθ
b Cosθ
c Tanθ

d Secθ

101. The branch of engineering that deals with improvement of traffic performance, traffic studies and traffic network is called [ ]
   a Highway engineering
   b Railway engineering
   c Traffic engineering
   d Traffic management

102. In India for design of roads pedestrian is considered as [ ]
   a Element of traffic
   b Intruder in traffic
   c Essential part of traffic
   d Controller of traffic

103. The basic objective of traffic engineering is to achieve [ ]
   a Efficient, free and rapid flow of traffic with least priority given to accidents
   b Efficient, free and rapid flow of traffic with fewer accidents
   c Efficient and rapid flow of traffic
   d Rapid flow of traffic

104. The “3-Es” of traffic engineering stand for [ ]
   a Enforcement, empowerment and eradication
   b Engineering, education and expulsion
   c Engineering, education and enforcement
   d Engineering, education and enthusiasm

105. Which of the following roads are congested during peak hours? [ ]
   a Rural roads
   b Urban roads
   c Highways
   d Express ways

106. Design of road intersections is a part of [ ]
   a Highway engineering
   b Railway engineering
   c Traffic engineering
   d Harbour engineering

107. The most important objective of traffic engineering is [ ]
   a To consider pedestrians as obstruction
   b To reduce the accidents
   c To increase the traffic
   d To provide a high speed road without any other priority

108. The brake efficiency in braking test is assumed as [ ]
   a 95%
   b 96%
   c 99%
   d 100%

109. The first stage in the traffic engineering studies is [ ]
   a Traffic volume studies
   b Spot speed studies
   c Speed and delay studies
   d Origin and destination studies
110. The traffic volume is usually expressed in [ ]
   a LMV
   b PCU
   c LCV
   d HCV
111. The number of vehicles that pass through a transverse line of road at a given time in a specified direction is called [ ]
   a Traffic studies
   b Traffic flow
   c Traffic origin
   d Traffic destination
112. HCV stands for [ ]
   a Heavy commercial vehicle
   b Heavy cash vehicle
   c Heavy consolidated vehicle
   d Hard commercial vehicle
113. The first objective of the traffic volume studies is [ ]
   a To decide priority for improvement of roads
   b For geometric design
   c For computing roadway capacity
   d To plan traffic operation
114. Which of the following method is more accurate for traffic analysis? [ ]
   a Manual count
   b Automatic count
   c Average of manual and automatic
   d Past records
115. The outgoing and incoming traffic are counted at [ ]
   a Traffic intersections
   b Highway
   c Urban roads
   d Traffic symbols
116. The traffic that is prepared based on 365 days of the year is called [ ]
   a Yearly traffic
   b Annual average daily traffic
   c Average daily traffic
   d Average yearly traffic
117. The traffic design in India is based on [ ]

a 10th hourly volume
b 20th hourly volume
c 30th hourly volume
d 45th hourly volume

118. If the traffic volume count on a road is 150 and daily factor is 1.1 and seasonal factor is 1.2 then ADT is [ ]
a 196
b 197
c 198
d 199

119. The ratio of seven day average for 24 hour and 24 hour count on any particular day is [ ]
a Daily factor
b Seasonal factor
c Annual factor
d Weekly factor

120. The annual average daily traffic is calculated by the formula [ ]
a ADT*DF*WF
b ADT*DF*WF*SF
c ADT*WF
d ADT*SF

121. Running speed of a vehicle is equal to [ ]
a Travel speed+ delay
b Travel speed
c Travel speed-delay
d Average of travel speed and delay

122. The speed at any instant of time is called [ ]
a Running speed
b Travel speed
c Spot speed
d Space speed

123. The geometric design in India are designed for [ ]
a 85th percentile speed
b 15th percentile speed
c 98th percentile speed
d 100 percentile speed

124. The vehicles per unit length at any instant of time is called as [ ]
a Density
b Jam density
c Maximum density
d Traffic flow

125. The distance between the two consecutive vehicles is called [ ]
a Space headway

b Time headway
c Jam density
d Traffic flow

Signature of Faculty

Signature of HOD

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

III B.Tech–II SEM (MR 17-2018-19 Admitted Students)

I Mid Examination Subjective Question Bank

Subject : WATER RESOURCE ENGINEERING
Branch /Specialization : Civil Engineering
Name of the faculty : B.Supriya varma , Venkatesh

<table>
<tr><th colspan="4">Module I</th></tr>
<tr><th>Q.No.</th><th>Question</th><th>Bloom's Taxonomy Level</th><th>CO</th></tr>
<tr><td>1.</td><td>Define hydrological cycle. Sketch the cycle and tabulate the various processes involved in the system.</td><td>Remembering</td><td>1</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>2.</td><td>Define runoff. What are the factors affecting runoff and explain in detailed</td><td>Remembering</td><td>1</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>3.</td><td>Describe with diagram the non-recording type Rain gauge.</td><td>Understanding</td><td>1</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>4.</td><td>Define infiltration. Explain the measurement of infiltration in detailed</td><td>Understanding</td><td>1</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>5.</td><td>Define a Unit Hydrograph and discuss about advantages and Assumptions</td><td>remembering</td><td>1</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>6.</td><td>What are the different methods for the measurement of precipitation? Describe Tipping bucket method with neat sketch</td><td>remembering</td><td>1</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>7.</td><td>Solve the ordinates of S- hydrograph from a 3hour intervals. assuming the base flow is 8 m^3/s. The ordinates of s-hydrograph are given in the table below and draw a graph.
<table>
<tr><td>Time(hr)</td><td>3</td><td>6</td><td>9</td><td>12</td><td>15</td><td>18</td><td>21</td></tr>
<tr><td>Ordinates of 4hr flood hydrograph</td><td>9</td><td>20</td><td>28</td><td>32</td><td>26</td><td>18</td><td>6</td></tr>
</table></td><td>applying</td><td>1</td></tr>
</table>

<table>
<tr><td colspan="4">OR</td></tr>
<tr><td>8.</td><td>Given below are the ordinates of 4hr unit hydrograph. Separate the base flow and solve the volume of ordinate of unit hydrograph assuming that base flow is 6 m^3/s and draw a graph.
<table>
<tr><td>Time(hr)</td><td>0</td><td>4</td><td>8</td><td>12</td><td>16</td><td>20</td><td>24</td></tr>
<tr><td>Ordinates of 4hr flood hydrograph</td><td>6</td><td>18</td><td>30</td><td>24</td><td>12</td><td>8</td><td>6</td></tr>
</table></td><td>applying</td><td>1</td></tr>
<tr><td colspan="4">Module II</td></tr>
<tr><td>1.</td><td>Derive an expression for the steady state radial flow into a well under confined aquifer condition.</td><td>applying</td><td>2</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>2.</td><td>Derive an expression for the steady state discharge of well fully penetrating in an unconfined aquifer by explaining all the terms with diagram.</td><td>applying</td><td>2</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>3.</td><td>a)Explain the following terms: i) aquifer, ii) aquiclude iii) zone of aeration, iv)transmissibility, v) specific yield
b) Write and explain the classification of subsurface water.</td><td>understanding</td><td>2</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>4.</td><td>Explain the method of determining the coefficient of transmissibility of a confined aquifer by pumping out test.</td><td>understanding</td><td>2</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>5.</td><td>Write short notes on validity of Darcy’s law to flow near the well.</td><td>Remembering</td><td>2</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>6.</td><td>a) What are the assumptions of Dupit’s theory
b) Define confined and unconfined aquifer with neat sketch.</td><td>Remembering</td><td>2</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td>7.</td><td>In artesian aquifer of 8m thick – a 10cm diameter wall is pumped at a constant rate of 90 lit/min. The steady state drawdown observed in two walls located at 7m and 42m distances from center of the wall are 2.5m and 0.005m. Solve the Transmissibility and hydraulic conductivity of the aquifer
.</td><td>Analyzing</td><td>2</td></tr>
<tr><td colspan="4">OR</td></tr>
<tr><td>8.</td><td>The discharge from a fully penetrating well operating under steady</td><td></td><td>2</td></tr>
</table>

	state in a confined aquifer of 30 m thickness is 2100 lit/min. The drawdowns observed at two observation wells located at 15m and 150m from the well are 3.2m and 0.28m respectively. Solve the transmissibility and the permeability of the aquifer .	Analyzing	
Module III			
1.	Explain the advantages and ill effects of irrigation.	Understanding	3
OR			
2.	Classify the types of sub-surface irrigation methods. Write about sprinkler irrigation method in detail.	Understanding	3
OR			
3.	Define Duty, Delta and Base period derive the necessary relation between D, Δ and B.	Understanding	3
OR			
4.	A) Explain the types of irrigation. B) Explain how to prepare the land for irrigation	Understanding	3

Signature of faculty

Signature of HOD

MALLAREDDY ENGINEERING COLLEGE (AUTONOMOUS)

IIIB.TECH II SEM (MR17 REGULATION)
1ST MID EXAM QUESTIONS

Subject: Water Resources Engineering

Branch: Civil Engineering Faculty: B.Supriya varma

1. In India the recording type rain gauge generally used, is [ ]
   A) weighing type
   B) tipping type
   C) float recording type
   D) none of these

2. In India, rain fall is generally recorded at [ ]
   A) 8 A.M.
   B) 12 Noon
   C) 4 P.M.
   D) 8 P.M.

3. Precipitation caused by lifting of an air mass due to the pressure difference, is called [ ]
   A) cyclonic precipitation
   B) convective precipitation
   C) orographic precipitation
   D) none of these.

4. For determination of average annual precipitation in a catchment basin, the best method is [ ]
   A) Arithmetical method
   B) Thiessen's mean method
   C) Isohyet method
   D) None of these.

5. Rainfall simulators are used for the determination of [ ]
   A) evaporation
   B) precipitation
   C) run off
   D) infiltration capacity

6. Symon's rain gauge is [ ]
   A) tipping-bucket gauge
   B) weighing type gauge
   C) float recording gauge
   D) non-recording gauge.

7. Isohyets are the imaginary lines joining the points of equal [ ]
   A) pressure

B) height
C) humidity
D) rainfall.

8. Phytometer is generally used for the measurement of [ ]
   A) interception
   B) evaporation
   C) transpiration
   D) none of these.

9. Pressure exerted by fully saturated air, is known [ ]
   A) partial pressure
   B) vapor pressure
   C) saturation vapor pressure
   D) None of these.

10. Precipitation caused due to striking of air masses with Mountains, is called [ ]
   A) orographic precipitation
   B) convective precipitation
   C) cyclonic precipitation
   D) none of these

11. The science which deals with occurrence , movement and circulation of water is called [ ]
   A) hydrogeology
   B) geohydrology
   C) hydrology
   D) hydrography

12. The instrument used to measure the wind velocity in the atmosphere is [ ]
   A) currentmeter
   B) atmometer
   C) pyranometer
   D) anemometer

13. Rain shadow region is formed on the [ ]
   A) windward side of mountain when rain yielding mass passes over it
   B) leeward side of mountain when rain yielding air mass passes over it
   C) plains when rain yielding air mass passes over it
   D) none of the above

14. The convictive precipitation is caused when [ ]
   A) vertical instability of moist air is produced by surface heating
   B) the distribution on the air front develops into cyclone
   C) the colder air raises into warm air
   D) all of the above

15. Rainfall hyetograph shows the variation of [ ]
   A) cumulative rainfall with time
   B) rainfall intensity with time

C) Rainfall depth over an area
D) Rainfall intensity with the cumulative rainfall

16. Rainfall mass curve shows the variation of [ ]
A) rainfall intensity with time
B) Rainfall intensity with the cumulative rainfall
C) Rainfall excess with time
D) cumulative rainfall with time

17. In selecting a site for a rain gauge the nearest object should be at a minimum distance of [ ]
A) Twice its height
B) Thrice its height
C) Equal to its height
D) Anywhere

18. Double mass curve technique is used [ ]
A) To prepare rainfall hyetograph from rainfall masscurve
B) To check the consistency of record at a suspected rain gauge station
C) To derive the hydrograph
D) To derive the s-curve hydrograph

19. The chart removed from a recording type rain gauge gives [ ]
A) The rainfall mass curve
B) Rainfall hyetograph
C) The isohyetal map
D) Double mass curve

20. As per Indian standards how many rain gauges should be installed in catchment with an area of 1000km2 lying in planes? [ ]
A) 6
B) 4
C) 2
D) 8

21. Intensity of rainfall means [ ]
A) Total rainfall during a storm
B) Rainfall per unit area
C) Rate at which the rainfall depth is accumulating
D) Volume of Rainwater per unit area

22. snow fall is generally measured in terms of [ ]
A) Weight of snow per unit area
B) Equivalent depth of water
C) Depth of snow fallen
D) Any of the above

23. Thiessen polygon method is used [ ]
    A) To determine the parameters of aquifer
    B) To locate the depth of water table
    C) To compute the average depth of rainfall
    D) To drive the ordinates of unit hydrograph

24. In the two point method of finding the average velocity using the current water across a vertical in a open channel, the velocities are measured below the free surface at [ ]
    A) 0.25 & 0.75 depths
    B) 0.20 & 0.80 depths
    C) 0.4 & 0.6 depths
    D) 0.15 & 0.85 depths

25. In the Single point method of finding the average velocity using the current water across a vertical in a open channel, the velocities are measured below the free surface at [ ]
    A) 0.8 depth
    B) 0.7 depth
    C) 0.6 depth
    D) 0.5 depth

26. The stage in the river is defined as [ ]
    A) The elevation of water surface with reference to an arbitrary datum
    B) The average depth of flow in the stream
    C) The radius of a semicircle whose area equal to the area of flow
    D) None of the above

27. A hydrograph is the graph drawn between [ ]
    A) Discharge in the river and the stage in the river
    B) Discharge and time
    C) Stage and time
    D) None of the above

28. The concept of unit hydrograph was 1st introduced by [ ]
    A) Dalton
    B) Sherman
    C) Darcy
    D) Gumbell

29. The word unit in the unit hydrograph means [ ]
    A) The unit depth of runoff
    B) Unit duration of the storm
    C) Unit base period of the hydrograph
    D) arbitrary

30. Direct runoff is the sum of [ ]
    A) The surface runoff and the base flow

B) The baseflow and the ground water runoff
C) The delayed subsurface runoff and deep percolation
D) The surface runoff and the rapid subsurface runoff

31. The s-curve hydrograph is [ ]
A) The summation of the unit hydrograph
B) The summation of the total runoff hydrograph
C) The summation of the rainfall hyetograph
D) None of these

32. The s-curve hydrograph is [ ]
A) To estimate the peak flood from a basin due to a given storm
B) To convert the unit hydrograph of given duration into a unit hydrograph of any other duration
C) To develop synthetic unit hydrograph
D) To estimate the infiltration losses

33. The lag time of the basin is [ ]
A) The time between the centroid of rainfall diagram and the peak ordinate of the hydrograph
B) The time between the beginning and ending of direct runoff
C) The time between the beginning and ending of effective rainfall
D) The time taken for the remotest particle to reach the basin outlet

34. Unit hydrograph method is generally used to estimate the peak flood when the catchment area does not exceed [ ]
A) 1000 km2
B) 1500 km2
C) 5000 km2
D) 10000 km2

35. For non-uniform rainfall W-index will be always [ ]
A) equal to Ø-index
B) more than Ø-index
C) less than Ø-index
D) difficult to tell

36. For uniform rainfall W-index will be always [ ]
A) equal to Ø-index
B) more than Ø-index
C) less than Ø-index
D) difficult to tell

37. The chemical compound which is generally used to reduce the evaporation for water bodies is [ ]
A) D.D.T
B) alum

C) cetyl alcohol
D) potassium dichromate

38. Lysimeter is the instrument used to measure [ ]
A) evaporation
B) transpiration
C) infiltration
D) evapotranspiration

39. The evaporation through plants and from the surrounding soil together is called [ ]
A) Hydration
B) vapourisation
C) transpiration
D) evapotranspiration

40. The California formula for return period is [ ]
A) T=n/m
B) T=2n/2m-1
C) T=n+1/m
D) T=n/m-1

41. The ryve's formula for maximum flood from a catchment of area A is given by [ ]
A) Q=CA^2/3
B) Q=CA^3/4
C) Q=CA^4/5
D) Q=CA^1/3

42. The theory of infiltration was enunciated by [ ]
A) Sherman
B) Dalton
C) Darcy
D) Horton

43. The type of recording rain gauge used in India [ ]
A) weighing type
B) float type
C) tipping-bucket type
D) none of the above

44. I.M.D stands for [ ]
A) Indian Mining Department
B) Indian Mineral Deposits
C) Indian Meteorological Department
D) International Monetary Debt

45. The strange's table gives the relationship between [ ]
A) temperature and evaporation
B) rainfall and infiltration
C) rainfall and runoff
D) runoff and area of basin

46. The convictive precipitation is caused when [ ]
A) vertical instability of moist air is produced by surface heating
B) the distribution on the air front develops into cyclone
C) the colder air raises into warm air
D) all of the above

47. In selecting a site for a rain gauge the nearest object should be at a minimum distance of [ ]
A) 30m
B) 40m
C) 50m
D) 60m

48. 48. Consistency of Rainfall record is measured by [ ]
A) Double Mass Curve
B) Demand curve
C) Inflow Curve
D) Mass Curve

49. The Dicken's formula for maximum flood from a catchment of area A is given by [ ]
A) Q=CA^2/3
B) Q=CA^3/4
C) Q=CA^4/5
D) Q=CA^1/3

50. Transpiration is confirmed to [ ]
A) Day light
B) Night time
C) all of the above
D) Afternoon

51. The quantity of water retained by the sub-soil against gravity, is known [ ]
A) yield
B) porosity
C) specific yield
D) specific retention

52. Pick up the incorrect statement from the following : [ ]

A) The rate of flow of water through a unit cross-sectional area under a unit hydraulic gradient, is called coefficient of permeability
B) The rate of flow of water through a vertical strip of the acquifer of unit width and full depth under a unit hydraulic gradient, is called coefficient of transmissibility
C) The flow of water through acquifers, is governed by the Darcy's law
D) The term 'transmissibility' was introduced by Meinzer

53. Example of Aquifer is [ ]
A) Sand
B) Sandy Clay
C) Clay
D) Rock

54. If the viscosity of ground water is 1.00, the Slitcher's constant is 400, the effective size of soil particles in acquifer is 0.5 mm and hydraulic gradient is 1 in 80,
the velocity of flow is, [ ]
A) 0.25 m/day
B) 0.50 m/day
C) 0.75 m/day
D) 1.25 m/day.

55. Pick up the correct statement from the following : [ ]
A) Perched aquifer is found in unconfined aquifer
B) The top surface of the water held in the perched aquifer, is known as perched water table
C) Perched aquifer is formed in unfinedaccquifer if an impervious layer exists
D) All the above.

56. When Aquifer is present between two Impermeable stratum then it is called [ ]
A) Confined Aquifer
B) Unconfined Aquifer
C) Perched aquifer
D) None of these.

57. A well penetrates to 30 m below the static water table. After 24 hours of pumping at 31.40 litres/minute, the water level in a test well at a distance of 80 m is lowered by 0.5 m and in a well 20 m away water is lowered by 1.0 m. The transmissibility of the auifer, is [ ]
A) 1.185 m^2/minute
B) 1.285 m^2/minute
C) 1.385 m^2/minute
D) 1.485 m^2/minute

58. Shrouding is provided in [ ]
A) cavity type tube wells
B) slotted type tube wells
C) strainer type tube wells
D) perforated type tube wells.

59. The efficiency of a pump may be taken as [ ]

A) 0.55
B) 0.6
C) 0.65
D) 0.7

60. Pick up the correct statement from the following : [ ]
A) The zone below water table, is called zone of saturation
B) The zone above water table, is called zone of aeration
C) The water which exists in the zone of saturation, is called ground water
D) All the above.

61. If the grain size of soil increases [ ]
A) surface area decreases
B) specific retention decreases
C) specific yield increases
D) all the above.

62. Sand in between two rock stratum is an example of [ ]
A) Aquifer
B) Confined Aquifer
C) Unconfined Aquifer
D) Aquitard

63. Pick up the correct statement from the following : [ ]
A) A confined bed of impervious material laid over an acquifer, is known as an aquiclude
B) The top most water bearing strata having no acquifer, is known as non-artesionacquifer
C) The ordinary gravity wells which supply water from the top most water bearing strata, are called water table wells
D) All the above

64. Confined Aquifer is also called as [ ]
A) Pressure Aquifer
B) Non-artesian aquifer
C) Water table aquifer
D) Saturated Aquifer

65. Darcy's law indicates [ ]
A) V directly proportional to 2k
B) V indirectly proportional to K
C) V indirectly proportional to i
D) all the above.

66. The Dupuit formula is based on [ ]
A) one observation well
B) two observation wells
C) three observation wells
D) no observation well

67. A well is sunk in an unconfined aquifer having a saturated depth of 100 m. Assuming the equilibrium flow conditions and a homogeneous aquifer and radius of influence to be same, the ratio of discharges at 20 m and 40 m draw downs, is [ ]
A) 0.67
B) 1.25
C) 0.8
D) 1.14

68. Pick up the correct statement from the following : [ ]
A) The ratio of total volume of voids in soil aggregates to the total volume of aggregate, is called Porosity
B) Water retained by the interstices due to molecular attraction, is called pellicular water
C) The ratio of volume of water obtained by gravity drainage to the total volume of the materials drained, is called 'yield'
D) All the above.

69. Isopiastic lines are the contours [ ]
A) drawn to represent water table
B) drawn to represent piezometric heads
C) drawn to piezometric surface
D) none of these.

70. The coefficients of permeability of soils of an unconfined aquifer and another confined aquifer were determined by pumping water from the wells and observing the effect of water table in two test wells at equal distances was found to be equal. The total height of confined aquifer H is given by [ ]
A) $H = h_2 - h_1$
B) $H = h_1 - h_2$
C) $H = h_2 + h_1$
D) $1/2 (h_1 + h_2)$

71. The radius of influence is [ ]
A) radius of the main well
B) distance from the wall of main well to the point of zero draw down
C) distance from the centre of main well to the point of zero draw down
D) none of these.

72. When a constant discharge 2.91 litres/sec. was obtained in a pumping test, the draw downs in the test wells at 3 m and 6.184 m were 2.6 m and 0.3 m respectively. If over-all depth of the pumping well was 16 m, the permeability of the soil, is [ ]
A) 0.0005 cm/sec
B) 0.001 cm/sec

C) 0.002 cm/sec
D) 0.01 cm/sec.

73. Clay is an example of [ ]
A) Aquitard
B) Aquifuge
C) Aquiclude
D) Aquifer

74. The percentage of a rock's total volume that is taken up by pore space is called the _____ [ ]
A) permeability
B) recharge
C) aquifer
D) porosity

75. The lowering effect on the water table about the base of the well stem is called a(n): [ ]
A) aquiclude
B) artesian surface
C) cone of depression
D) speleothem

76. A local water table positioned above the regional water table is said to be: [ ]
A) stranded
B) perched
C) displaced
D) depressed

77. Which of the following statements about the water table is false: [ ]
A) the water table changes when discharge is not balanced by recharge
B) the water table is generally flat
C) the water table is above the land surface in lakes
D) the water table is depressed near high volume pumping wells

78. The boundary between the saturated zone and the unsaturated zone is called the_____ . [ ]
A) water table
B) aquifer
C) aquiclude
D) porosity

79. The infiltration of water into the subsurface is the _____ . [ ]
A) influent
B) effluent
C) discharge
D) recharge

80. What is the term for a relatively impermeable geologic unit? [ ]
A) an artesian
B) an aquiclude
C) an aquifer

D) none of these

81. Excessive pumping in relation to recharge can cause _____ . [ ]
A) the water table to decline
B) a cone of depression to form
C) the well to go dry
D) all of these

82. Most groundwater withdrawn in the United States is used for _____ . [ ]
A) industry
B) irrigation
C) drinking water
D) swimming pools

83. Most of the water coming out of continental hot springs is _____ . [ ]
A) meteoric water
B) magmatic water
C) seawater
D) metamorphic water

84. Which one of the following features is a sure sign of karst? [ ]
A) sinkholes
B) artesian wells
C) cones of depression
D) speleothems

85. Groundwater represents how much of the world's fresh water supply? [ ]
A) about 1%
B) about 5%
C) about 20%
D) about 50%

86. Which of the following rocks has the highest permeability? [ ]
A) an unfractured shale
B) a cemented sandstones
C) an uncemented sandstone
D) all of these rocks have approximately the same permeability

87. Which of the following materials has the lowest porosity? [ ]
A) shale
B) gravel
C) granite
D) sandstone

88. What is the difference between the saturated and the unsaturated zones of ground water? [ ]
A) the saturated zone has a higher porosity than the unsaturated zone
B) the saturated zone has a lower porosity than the unsaturated zone
C) the pore spaces in the saturated zone are completely full of water; the pore spaces in the unsaturated zone are not completely full of water.
D) the pore spaces in the saturated zone are not completely full of water; the pore spaces in the unsaturated zone are completely full of water

89. The boundary between the saturated zone and the unsaturated zone is called the _____. [ ]
A) water table
B) aquifer
C) aquilude
D) porosity

90. Excessive pumping in relation to recharge can cause_____ [ ]
A) the water table to decline
B) a cone of depression
C) the well to go dry
D) all of these

91. Which of the following can contaminate an aquifer? [ ]
A) landfills
B) agricultural regions
C) gas stations
D) all of these

92. Water that is good enough to drink is called _____. [ ]
A) potable water
B) groundwater
C) surface water
D) artesian water

93. Which of thefollowing phenomena results from water being pumpedfrom a well? [ ]
A) The surrounding water table is raised in a upward-pointing cone
B) The surrounding water table is lowered in a downward-pointing cone
C) The surrounding water table is raised in a cone that points upslope
D) The surrounding water table is lowered in a cone that points downslope

94. Thedifference between the cone tip and the original water table afterwater has beendrawn from a well is known as the _____. [ ]
A) recharge
B) runoff
C) yield
D) drawdown

95. Which of the following is the potentialresult of water table depletion? [ ]

A) An increase in the base level of surrounding streams
B) The water table becomes more shallow
C) Volumes of groundwater increase
D) A sinking of the land known as subsidence

96. A tracer takes 100 days to travel from Well-1 to Well-2 which are 100 m apart. The elevation of water surface in Well-2 is 3 m below that in Well-1. Assuming porosity equal to 15%, the coefficient of permeability (expressed in m/day) is [ ]
A) 0.3
B) 0.45
C) 1
D) 5

97. In an aquifer extending over 150 hectare, the water table was 20m below ground level. Over a period of time the water table dropped to 23 m below the ground level . if the porosity of aquifer is 0.40 and the specific retention is 0.15, what is the change in ground water storage of the acquifer? [ ]
A) 67.5 ha-m
B) 112.5 ha-m
C) 180.0 ha-m
D) 450.0 ha-m

98. A wall of diameter 20 cm fully penetrates a confined aquifer. After a long period of pumping at a rate of 2720 litres per minute, the observations of drawdown taken at 10 m and 100 m distances from the center of the wall are found to be 3 m and 0.5 m respectively.
The transmissivity of the aquifer is [ ]
A) 676 m2/day
B) 576 m2/day
C) 526 m2/day
D) 249 m2/day

99. The relationship among specific yield (Sy), specific retention (Sr) and porosity (η) of an aquifer is [ ]
A) $Sy = Sr + \eta$
B) $Sy = Sr - \eta$
C) $Sy = \eta - Sr$
D) $Sy = Sr + 2\eta$

100. A volume of 3.0×106 m3 of groundwater was pumped out from an unconfined aquifer, uniformly from an area of 5 km2. The pumping lowered the water table from initial level of 102 m to 99 m. The specific yield of the aquifer is [ ]
A) 0.2

B) 0.3
C) 0.4
D) 0.5

101. Crops grow well when they are [ ]
A) fertilized
B) irrigated
C) cared
D) wilted

102. Most essential component for crops is [ ]
A) water
B) fertilizers
C) soil
D) humidity

103. Crops that need a lot of water are [ ]
A) rice and maize
B) wheat and maize
C) rice and wheat
D) maize and other grains

104. Carriage of water through pipelines and tube wells to farms is known as [ ]
A) Fertilization
B) Hydration
C) Irrigation
D) Pollination

105. Remains of salt over soil after evaporation of water is known as [ ]
A) Water logging
B) Salivation
C) Dehydration
D) Salivation

106. The irrigation engineering may be defined as [ ]
A) a science of planning and designing an efficient and economic irrigation system
B) the engineering of controlling and harnessing the various natural sources of water, by the construction of dams, canals and finally distributing the water to the agricultural fields
C) the process of artificially supplying water to soil for raising crops
D) all of the above

107. The irrigation is necessary in an area [ ]
A) where there is a scanty rainfall
B) where the rainfall is non-uniform
C) where commercial crops require more water
D) all of the above

108. The irrigation water is said to be unsatisfactory, if it contains [ ]

A) chemicals toxic to plants or to persons using plants as food
B) chemicals which react with the soil to produce unsatisfactory moisture characteristics
C) bacteria injurious to persons or animals eating plants irrigated with water
D) all of the above

109. Sandy soils with good drainage become impermeable after prolonged use, if it is irrigated with a water containing [ ]
A) 25%
B) 75%
C) 55%
D) 85%

110. For irrigation purposes, the p-H value of water should be [ ]
A) between 3 and 6
B) between 6 and 8.5
C) between 8.5 and 11
D) more than 11

111. Which of the salt present in water is harmful for cultivation purposes? [ ]
A) Sodium carbonate
B) Potassium sulphate
C) Sodium chloride
D) Calcium sulphate

112. A part of water which exists in the porous space of the soil by molecular attraction, is known as [ ]
A) capillary water
B) hygroscopic water
C) gravitational water
D) all of these

113. Super-fluous water is also called [ ]
A) capillary water
B) hygroscopic water
C) gravitational water
D) all of these

114. The amount of water required to fill up the pore spaces in soil particles by replacing all air held in pore spaces, is known as [ ]
A) field capacity
B) saturation capacity
C) available moisture
D) all of these

115. The moisture content of the soil, after free drainage has removed most of the gravity water, is known as [ ]
A) field capacity
B) saturation capacity
C) available moisture
D) all of these

116. Available moisture may be defined as the [ ]
A) moisture content at permanent wilting point
B) difference in water content of the soil between field capacity and permanent wilting
C) maximum moisture holding capacity
D) all of these

117. Sprinkler irrigation is adopted for [ ]
A) level
B) Uneven
C) hilly
D) none

118. The method of irrigation used for orchards is [ ]
A) free flooding
B) check flooding
C) border flooding
D) basin flooding

119. The science which deals with the physical features and conditions of water on the earth surface is called [ ]
A) hydrometry
B) hydrography
C) hydrosphere
D) hydraulics

120. Where steep land is available, the method of irrigation adopted is [ ]
A) free flooding
B) check flooding
C) border flooding
D) basin flooding

121. Check flooding method of irrigation is used for [ ]
A) closed growing crop
B) tracts with flat gradients
C) Crops which can stand inundation of water for sometime
D) crops such as sugarcane, potatoes etc

122. The process of loosing water from the leaves of plants, is termed as [ ]
A) transpiration
B) surface evaporation

C) water surface evaporation
D) precipitation

123. The saturation gradient in an ordinary loam soil is [ ]
A) 1:01
B) 2:01
C) 3:01
D) 4:01

124. A land is said to be water-logged when [ ]
A) the air circulation is stopped in the root zone due to the rise in water table
B) it is submerged in flood
C) the doil pores within a depth of 40 cm are saturated
D) all of the above

125. The first watering before sowing the crop, is known as [ ]
A) kor watering
B) paleo
C) delta
D) None

Signature of faculty Signature of HOD