



GPSSB AEE

Civil Engineering

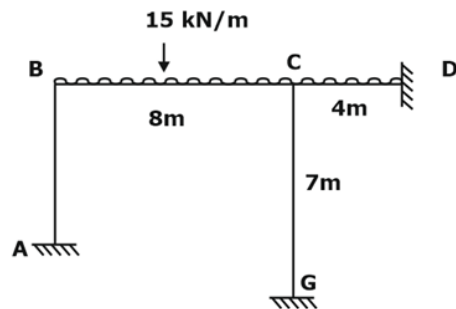
Mega Mock Test

(May 9th - May 10th 2022)

Questions &
Answer Key

Ans. D

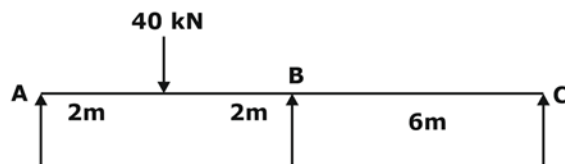
9. For the frame shown in the figure, the distribution factors for members CB, CD and CG are respectively (Assume EI as constant)



- A. $\frac{14}{29}, \frac{8}{29}$ and $\frac{7}{29}$ B. $\frac{7}{29}, \frac{14}{29}$ and $\frac{8}{29}$
 C. $\frac{7}{29}, \frac{8}{29}$ and $\frac{14}{29}$ D. $\frac{14}{29}, \frac{7}{29}$ and $\frac{8}{29}$

Ans. B

10. A continuous beam with uniform flexural rigidity is shown in the figure.



The moment at B is

- A. 18 kN-m B. 16 kN-m
 C. 14 kN-m D. 12 kN-m

Ans. D

11. What is the ratio of the yield stress in power driven shop rivets relative to the permissible bearing stress of mild steel?

- A. 1.0 B. 0.8
 C. 0.6 D. 0.4

Ans. B

12. As per IS 800 – 2007, the buckling class for cold formed tubular section is

- A. a class B. b class
 C. c class D. d class

Ans. B

13. Reduction in design shear capacity of bolt due packing plate of 12 mm is given by

- A. 0.75 B. 0.85
 C. 0.65 D. 0.5

Ans. B

14. The length of a line measured with a 20 m chain was found to be 400 m. It was afterwards found that the chain was 0.05 m too long. What will be the true length of the line ?

- A. 399 m B. 401 m
 C. 400.05 m D. 399.05 m

Ans. B

15. The maximum permissible tolerance in a 20m chain is:

- | | |
|----------------------|----------------------|
| A. $\pm 5\text{mm}$ | B. $\pm 15\text{mm}$ |
| C. $\pm 10\text{mm}$ | D. $\pm 20\text{mm}$ |

Ans. A

16. A scale representing either three units or only one unit and its fractions up to second place of decimal point is _____.

- | | |
|-------------------|----------------------|
| A. Diagonal scale | B. comparative scale |
| C. Vernier scale | D. Shrunk scale |

Ans. A

17. which one of the following is the largest scale?

- | | |
|-----------|------------|
| A. 1:500 | B. 1:1000 |
| C. 1:2500 | D. 1:50000 |

Ans. A

18. The line drawn through the points of same declination is called

- | | |
|--------------------|------------------|
| A. Isoclinic Lines | B. Agonic Lines |
| C. Isogonic Lines | D. Aclinic lines |

Ans. C

19. Calculate the magnetic declination, if the magnetic bearing of a line is $N 81^\circ E$ and the true bearing of the line is $N 77^\circ E$.

- | | |
|----------------------|----------------------|
| A. 4 degree eastward | B. 8 degree eastward |
| C. 4 degree westward | D. 8 degree westward |

Ans. C

20. Maturity for a fully matured concrete sample is?

- | | |
|-----------------------------|-----------------------------|
| A. 19800°C-hr | B. 30000°C-hr |
| C. 12000°C-hr | D. 13000°C-hr |

Ans. A

21. The separation of water on the fresh concrete is known as _____.

- | | |
|----------------|----------------------|
| A. segregation | B. hydration |
| C. bleeding | D. None of the these |

Ans. C

22. Which of the following statement is correct for a good building stone?

- | |
|---|
| A. Crushing strength is greater than 100 N/mm^2 |
| B. Percentage water absorption is less than 5% |
| C. Coefficient of hardness is greater than 17 |
| D. All of the above |

Ans. D

23. What is the permissible velocity of water in cement concrete lined canal as per IS 10430: 2000

- | | |
|---------------|---------------|
| A. 2.7 m/sec. | B. 1.8 m/sec. |
| C. 3.1 m/sec. | D. 1.5 m/sec. |

Ans. A

24. A wooden block hinged on post outside a door, is known.

- A. Horn
- B. Cleat
- C. Stop
- D. None of these

Ans. B

25. The grade of concrete M 20 means that characteristic compressive strength of 15 cm cubes after 28 days is given by

- A. 10 N/mm²
- B. 15 N/mm²
- C. 20 N/mm²
- D. 25 N/mm²

Ans. C

26. Apparatus used for testing soundness of cement

- A. Turbidity meter
- B. Le chatelier's apparatus
- C. Vicat's apparatus
- D. None

Ans. B

27. The crushing strength (MPa) of good stone used for construction of a building must not be less than ____.

- A. 10
- B. 50
- C. 100
- D. 120

Ans. C

28. Due to attack of dry rot, the timber ____.

- A. cracks
- B. shrinks
- C. reduces to powder
- D. none of these

Ans. C

29. Initial setting time of quick setting cement is?

- A. 5 min
- B. 30 min
- C. 10 min
- D. 100 min

Ans. A

30. The increased cohesiveness of concrete, makes it ____.

- A. less liable to segregation
- B. more liable to segregation
- C. more liable to bleeding
- D. more liable for surface scaling in frosty weather

Ans. A

31. No deduction is made in masonry work when area of opening less than ____?

- A. 148 inch²
- B. 155 inch²
- C. 160 inch²
- D. None

Ans. B

32. No deduction is required in plastering work when area of opening is?

- A. Less than 0.5 m²
- B. 0.5 – 3m²
- C. > 3m²
- D. All of the above

Ans. A

33. Unit of measurement for iron gates, rolling shutter is?

- A. m^2
- B. kg
- C. m^3
- D. Nos

Ans. A

34. For a steel of diameter 12 mm the weight of steel per unit length is?

- A. 0.88
- B. 0.98
- C. 1.0
- D. 1.2

Ans. A

35. The skempton's pore water pressure parameter for a normally consolidated Clay ranges between

- A. - 0.5 to 0
- B. 0 to 0.5
- C. 0.5 - 1.0
- D. 3 - 4

Ans. C

36. A vertically Upward seepage flow is taking place under a head of 3m in a Cohesion less medium of 1.5 m thick having $G = 2.65$ and $e = 0.5$. Determine FOS against quicksand condition

- A. 0.67
- B. 0.55
- C. 1.818
- D. 2

Ans. B

37. A sand sample of 25cm length was subjected to a constant head permeability in a permeameter having an area of 30 cm^2 . A discharge of 120 cm^3 was obtained in a period of 1 minute under a head of 40 cm. The coefficient of permeability is equal to.

- A. $\frac{1}{240} \text{ cm / sec}$
- B. 2.4 cm/sec
- C. $\frac{1}{24} \text{ cm / sec}$
- D. 24 cm/sec

Ans. C

38. Which of the following is partially permeable?

- A. Gravel
- B. Silt
- C. Sand
- D. Clay

Ans. B

39. Due to rise in temperature, the viscosity and unit weight of the percolating fluids are reduced to 70% and 90% respectively other things being constant the change in coefficient of permeability will be

- A. 20%
- B. 28.6%
- C. 63.0%
- D. 77.8%

Ans. B

40. The exit gradient of the seepage water through a soil is

- A. slope of flow line
- B. slope of the equipotential line
- C. Ratio of total head to the length of seepage
- D. Ratio of head loss to the length of seepage

Ans. D

41. Due to large leakage and flood damage problem following types of coffer dam is not preferred

- A. Braced type
- B. Cantilever sheet pile
- C. cellular type
- D. Double wall type

Ans. B

42. What is the use of sonoscope?

- A. checking the accuracy of water meters
- B. Regulating the fire hydrants
- C. As a replacement of venturi meter for discharge measurement
- D. Detection of leakage in underground water mains

Ans. D

43. A clay which contains kaolinite has on activity value of-

- A. 1
- B. 0
- C. 0.4
- D. 0.8

Ans. C

44. Drained condition are properly controlled in-

- A. Vane shear test
- B. Direct shear test
- C. Triaxial shear test
- D. None of these

Ans. C

45. For estimating bearing capacity of a saturated clay deposit the shear strength perimeter should be determined form-

- A. Direct shear test
- B. Undrained triaxial test
- C. Drained triaxial test
- D. Consolidated undrained triaxial test

Ans. A

46. The presence of algae in water indicate that water is

- A. Hard
- B. Turbid
- C. Acidic
- D. Soft

Ans. C

47. Electrostatic precipitators are not used for removal of

1). Gaseous contaminants 2). Liquid contaminants 3). Particulate contaminants

- A. only 1
- B. 1 and 2 only
- C. only 3
- D. 1, 2 and 3

Ans. B

57. For nine number rain gauge stations with an error of 10% in the estimation of mean of the rainfall, the coefficient of variation of rainfall C_v obtained as: -

- A. 10
- B. 20
- C. 30
- D. 40

Ans. C

58. The quantity of water retained by subsoil against pull of gravity is known as: -

- A. yield
- B. specific retention
- C. porosity
- D. specific yield

Ans. B

59. The area in which crop is grown at a particular time or crop season is called

- A. culturable uncultivated area
- B. Gross commanded area
- C. culturable commanded area
- D. None of these

Ans. A

60. The average delta for a sugarcane crop is nearer to

- A. 400 mm
- B. 800 mm
- C. 1200 mm
- D. 1600 mm

Ans. C

61. The average delta for a sugarcane crop is nearer to

- A. 400 mm
- B. 800 mm
- C. 1200 mm
- D. 1600 mm

Ans. C

62. The maximum scour depth (d_{max}) for condition of flow at noses of piers is

- A. 1.5 d
- B. 1.75 d
- C. 2.0 d
- D. 2.75 d

Ans. C

63. Small hydroelectric project generates power

- A. <25MW
- B. <100 MW
- C. <550 MW
- D. <1000 MV

Ans. A

64. Pick up the correct sequence of the parts of a canal system

- A. Main canal-d distributary -branch canal-head works-minor
- B. Head works-main canal-branch canal-distributary-minor
- C. Head works-main canal-branch canal-minor-distributary
- D. Head works-branch canal-main canal-distributary-minor

Ans. B

65. Hygroscopic water is defined

- A. The water held by the soil under capillary action
- B. The readily available water for the use of plants
- C. The water which is absorbed by the particles of dry soil from the atmosphere
- D. Total water content of the soil filled with water

Ans. C

66. Irrigation canals are generally aligned along

- A. contour line
- B. watershed line
- C. valley line
- D. parallel to valley line

Ans. B

67. The ratio of the peak load to the installed capacity of the plant is known as

- A. Load factor
- B. Plant factor
- C. Utilization factor
- D. All the options are correct

Ans. C

68. A stream having wetted area (A) of 500m^2 and wetted perimeter (P) of 150m, the hydraulic mean radius in meter is

- A. 650
- B. 3.33
- C. 0.3
- D. 350

Ans. B

69. If the radius of the centrifugal pump impeller is reduced from 10 cm, the head developed by the pump will change from 10 m to

- A. 9 cm of water
- B. 8.1 m of water
- C. 9.48 m of water
- D. 11.1 m of water

Ans. B

70. A single acting reciprocating pump has a plunger diameter 25cm and stroke 35 cm. The speed of the pump is 60 rpm and it delivers 16.5 $\text{\text{L}}$ ps of water. Determine theoretical discharge

- A. 16.8 $\text{\text{L}}$ ps
- B. 17.2 $\text{\text{L}}$ ps
- C. 18.0 $\text{\text{L}}$ ps
- D. 18.4 $\text{\text{L}}$ ps

Ans. B

71. A centrifugal pump gives maximum efficiency when its impeller blades are

- A. Bent forward
- B. Bend-backward
- C. Straight
- D. Wave-shaped

Ans. B

72. Which of the following is not correct relation for a pump?

- A. Discharge increase with speed.
- B. Power decrease with speed.
- C. Head increase with speed.
- D. Manometric head decrease with discharge.

Ans. B

73. Specific speed of a Pelton wheel is _____ than that of a reaction turbine?

- A. less
- B. More
- C. Same
- D. Can't determine

Ans. A

74. The correct, sequence in the direction of flow of water for installation in a hydropower plant is?
- A. Reservoir, surge tank, turbine, penstock
 - B. Reservoir, Penstock, surge tank, turbine
 - C. Reservoir, Penstock, turbine, surge tank
 - D. Reservoir, surge tank, Penstock, turbine

Ans. B

75. For a hydro-electric project with reaction turbine, the draft tube at the exit from the turbine is
- A. Always immersed in water
 - B. Always above the water
 - C. May either be above or below the water
 - D. Above or below the water depending on the unit speed of the turbine.

Ans. A

76. Complete the sentences by filling in the blanks.
Every Sunday ____ Millers go camping in ____ California National Park.
- A. a/the
 - B. the/a
 - C. an/a
 - D. the/the

Ans. D

77. Common In the following question, a sentence is given with a blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option. End

I haven't seen you _____ a week.

- A. within
- B. since
- C. for
- D. from

Ans. C

78. Common

Direction: Select the word which means the same as the group of words given.

End

Small pieces of metal that fly out from an exploding bomb

- A. shrapnel
- B. splinters
- C. filings
- D. bullets

Ans. A

79. Common

Find a word that is the synonym of -

End

SPIRITED

- A. heated
- B. drunk
- C. enthusiastic
- D. possessed

Ans. C

80. Common In the following question, out of the four alternatives, select the word similar in meaning to the given word. End

Crude

A. Unrefined

B. Cruel

C. Rude

D. Savage

Ans. A

81. Common In the following question, out of the five alternatives, select the word opposite in meaning to the given word. End

Intentional

A. Accidental

B. Undecided

C. Concentrated

D. Broken

E. None of these

Ans. A

82. Common

Direction: Select the most appropriate antonym of the given word.

End

DEVIOUS

A. straight

B. obvious

C. simple

D. superficial

Ans. A

83. Common In the following question, out of the four alternatives, select the alternative which is the best substitute for the given phrase. End

A principle or standard by which anything is or can be judged.

A. Manifesto

B. Copyright

C. Epitome

D. Criterion

Ans. D

84. Common Pick out the most appropriate option to fill in the blanks to complete the sentence meaningfully. End

The doctor _____ the patient from taking certain medicines.

A. proscribed

B. prohibited

C. prescribed

D. banned

Ans. B

85. Which of the following has a modal verb?

A. He dances very well.

B. I would like to visit your house sometime.

C. There is no error in the file.

D. You look great today.

Ans. B

86. Common

Direction: Choose the most appropriate option to change the narration (direct/indirect) of the given sentence.

End

"Please go outside", he said to her.

- A. He asked her to go outside.
- B. He requested her to go outside.
- C. He told her that go outside.
- D. He said her to please go outside.

Ans. B

87. Common

Choose the most appropriate option to change the voice (active/passive) form of the given sentence.

End

He will have closed his shop by 8 O'clock.

- A. His shop will have been closed by him by 8 O'clock.
- B. His shop will have closed by him by 8 O'clock.
- C. His shop will be closed by him by 8 O'clock.
- D. His shop will have been close by him by 8 O'clock.

Ans. A

88. **Select the incorrectly spelt word.**

- A. tattoo
- B. minuscule
- C. truly
- D. variation

Ans. C

89. Common

Select the most appropriate word to fill in the blank.

End

It is newspaper that _____ us news.

- A. give
- B. is giving
- C. gives
- D. has given

Ans. C

90. Common **Select the most appropriate option to fill in the blank.** End

_____ you hear the President's speech yesterday?

- A. Have
- B. Has
- C. Had
- D. Did

Ans. D

91. Common Each of the following items in this section consists of a sentence the parts of which have been jumbled. These parts have been labeled P, Q, R and S and are given below each sentence in four sequences namely (a), (b), (c), and (d). You are required to rearrange the jumbled parts of the sentence and mark your response accordingly. End
were sent by mistake (P)/ to my father (Q)/ who was very much surprised (R)/ the clothes that I ordered (S)

A. SQPR

B. PQSR

C. PQRS

D. SPQR

Ans. D

92. Common

Select the most appropriate meaning of the given idiom.

End

In a tight corner

A. in a closed room

B. in a small field

C. in a difficult situation

D. in a meadow

Ans. C

93. Common **Direction:** In the question below, there are two sentences containing underlined homonyms, which may either be misspelt or inappropriately used in the context of the sentence. Select the appropriate answer from the option given below: End

I. This behaviour does not compliment his position.

II. He thanked his boss for the complement.

A. only sentence I is correct

B. only sentence II is correct

C. both sentences I and II are correct

D. both sentences I and II are incorrect

Ans. D

94. Identify the kind of tense in the following sentence:

My grandfather adores his pet dog.

A. Simple past tense

B. Simple present tense

C. Simple future tense

D. Present continuous tense

Ans. C

95. Common

In the following statement, one part of the sentence may have an error. Find out which part of the sentence has an error and click the button corresponding to it. If the sentence is free from error, select the "No error" option.

End

(A) The whole block of flats / (B) including two shops / (C) were destroyed in the fire./

(D) No Error

A. A

B. C

C. D

D. B

Ans. B
