

80485

Booklet Serial No.

DO NOT BREAK THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

## QUESTION BOOKLET

SERIES : I

Subjects : General English, General Knowledge and Civil Engineering

Full Marks : 300

Time Allowed : 2½ Hours

*Read the following instructions carefully before you begin to answer the questions.*

## INSTRUCTIONS TO CANDIDATES

1. This Booklet contains 150 questions to be answered in a separate OMR Answer Sheet using Black Ballpoint Pen in the following three Parts :

Part—A : General English	: 25 questions
Part—B : General Knowledge	: 25 questions
Part—C : Civil Engineering	: 100 questions

2. All questions are compulsory.
3. You will be supplied the Answer Sheet separately by the Invigilator. You must complete the details of particulars asked for.
4. Answer must be shown by completely blackening the corresponding circle in the Answer Sheet against the relevant question number by Black Ballpoint Pen. OMR Answer Sheet without marking Series shall not be evaluated.

**Example :**

Suppose the following question is asked :

**The Capital of Meghalaya is**

- (A) Guwahati  
(B) Kohima  
(C) Shillong  
(D) Delhi

You will have four alternatives in the Answer Sheet for your response corresponding to each question of the Question Booklet as below :

(A) (B) (C) (D)

In the above illustration, if your chosen response is alternative (C), i.e., Shillong, then the same should be marked on the Answer Sheet by blackening the relevant circle with a Black Ballpoint Pen only as below :

(A) (B) (C) (D)

**The example shown above is the only correct method of answering.**

5. Answer the questions as quickly and as carefully as you can. Some questions may be difficult and others easy. Do not spend too much time on any one question.
6. There will NOT be any negative marking for wrong answers.
7. The Answer Sheet must be handed over to the Invigilator before you leave the Examination Hall.
8. No Rough Work is to be done on the Answer Sheet. Space for Rough Work has been provided in the Question Booklet.

SEAL

## PART—A : GENERAL ENGLISH

( Marks : 50 )

Each question carries 2 marks

**Directions (Q. Nos. 1-15) : Choose the correct options to fill in the gaps.**

1. Please do not \_\_\_\_ an offer made by the Chairman.  
(A) refuse  
(B) deny  
(C) refrain  
(D) refuge
2. Health is too important to be \_\_\_\_.  
(A) discarded  
(B) neglected  
(C) despised  
(D) detested
3. Like any other country, India has its \_\_\_\_ share of superstitions.  
(A) peculiar  
(B) proper  
(C) fair  
(D) abundant
4. The passengers of the flight were afraid but the captain \_\_\_\_ them that they were safe.  
(A) counselled  
(B) promised  
(C) advised  
(D) assured
5. I have not seen them \_\_\_\_ a week.  
(A) within  
(B) since  
(C) for  
(D) from
6. Do you know \_\_\_\_?  
(A) where she comes from  
(B) where does she come from  
(C) where from she comes  
(D) from where does she come
7. \_\_\_\_ you hear the President's speech?  
(A) Has  
(B) Have  
(C) Had  
(D) Did
8. How much longer \_\_\_\_ this book?  
(A) will you be needing  
(B) you are needing  
(C) will you have needed  
(D) have you needed



9. The building was so old and dilapidated that it was not \_\_\_\_\_.

- (A) habitat
- (B) habitation
- (C) habitable
- (D) habitant

10. Polyester is more \_\_\_\_\_ than cotton.

- (A) duration
- (B) durable
- (C) durably
- (D) durability

11. The proud king turned a deaf ear to the \_\_\_\_\_ of his wise counsellors.

- (A) advices
- (B) advise
- (C) advises
- (D) advice

12. She has only \_\_\_\_\_ friends.

- (A) more
- (B) fewer
- (C) a few
- (D) less

13. The police pushed the people back to make \_\_\_\_\_ for the Minister's car.

- (A) passage
- (B) way
- (C) place
- (D) area

14. I have made a rough \_\_\_\_\_ of the report.

- (A) drape
- (B) drought
- (C) draught
- (D) draft

15. We \_\_\_\_\_ not hurry, we have got plenty of time.

- (A) need
- (B) could
- (C) must
- (D) should

**Directions (Q. Nos. 16-20) : Choose the correct meanings of the idioms given.**

16. To put two and two together  
(A) To bear the brunt of something  
(B) To put off  
(C) To conclude from obvious facts  
(D) To put on a false appearance
17. To read between the lines  
(A) To suspect  
(B) To read the space between the lines  
(C) To do useless things  
(D) To understand the hidden meaning of the word
18. To face the music  
(A) To give a musical performance  
(B) To suffer consequences of actions  
(C) To change things  
(D) To play music in the face
19. Through thick and thin  
(A) Under all conditions  
(B) Under big and small  
(C) Pass through big and small objects  
(D) Thin and fat
20. From hand to mouth  
(A) To repeat something  
(B) To consume food with hand  
(C) To survive without saving anything  
(D) To hit someone on the mouth

**Directions (Q. Nos. 21-25) : Choose the correct options to fill in the gaps.**

21. The \_\_\_\_\_ to this mountain is not an easy task.  
(A) assent  
(B) ascent  
(C) ascend  
(D) accent
22. The boatman \_\_\_\_\_ the boat with a chain.  
(A) tow  
(B) toe  
(C) too  
(D) tog
23. She achieved the distinction by \_\_\_\_\_ of hard work.  
(A) did  
(B) din  
(C) dint  
(D) dent
24. She is \_\_\_\_\_ at the art of painting.  
(A) adopt  
(B) adapt  
(C) apart  
(D) adept
25. The hotel has many AC \_\_\_\_\_.  
(A) suites  
(B) suits  
(C) sweets  
(D) sweats



**PART—B : GENERAL KNOWLEDGE**

( Marks : 50 )

Each question carries 2 marks

- 26.** Who won the prestigious Man Booker Prize for *Milkman*?
- (A) Daisy Johnson  
(B) Jhumpa Lahiri  
(C) Anna Burns  
(D) Rachel Kushner
- 27.** Which of the following books was written by Arundhati Roy?
- (A) *A Suitable Boy*  
(B) *The White Tiger*  
(C) *Midnight's Children*  
(D) *The God of Small Things*
- 28.** What is the name of the strong cyclone that hit the coast of Andhra Pradesh and Orissa in October 2018?
- (A) Jebi  
(B) Katrina  
(C) Titli  
(D) Shanshan
- 29.** Which organ in the human body is responsible for removing carbon dioxide from the body?
- (A) Kidney  
(B) Lung  
(C) Blood  
(D) Ureter
- 30.** Who had given the theory of evolution of species by natural selection?
- (A) Darwin  
(B) Mendel  
(C) Dalton  
(D) Morgan
- 31.** Which of the following is a communicable disease?
- (A) Asthma  
(B) Scurvy  
(C) Measles  
(D) Diabetes

32. By which technique salt is obtained from seawater?

- (A) Filtration
- (B) Distillation
- (C) Chromatography
- (D) Evaporation

33. Excess of green gases on earth's surface can result in

- (A) deforestation
- (B) decay of earth's crust
- (C) excess of heat
- (D) more snow on earth

34. Who among the following was India's first man/woman in the space?

- (A) Sunita Williams
- (B) Kalpana Chawla
- (C) Rakesh Sharma
- (D) N. Ramaswamy

35. Which of the following is the first calculating device?

- (A) Abacus
- (B) Turing machine
- (C) Calculator
- (D) Pascaline

36. Ornithology is the

- (A) study of plants
- (B) study of bones
- (C) study of genes
- (D) study of birds

37. Who invented 'zero'?

- (A) Egyptians
- (B) Greeks
- (C) Chinese
- (D) Indians



38. The energy of food is measured in

- (A) calorie
- (B) celsius
- (C) kelvin
- (D) None of the above

39. Who discovered that plants have life?

- (A) Edward Jenner
- (B) J. C. Bose
- (C) John Napier
- (D) Charles Darwin

40. Who among the following Pakistani Nationals was awarded the Bharat Ratna by the Indian Government?

- (A) M. A. Jinnah
- (B) Muhammad Iqbal
- (C) Liaquat Ali Khan
- (D) Khan Abdul Ghaffar Khan

41. Which one of the following movements was started with the famous Dandi March?

- (A) Swadeshi Movement
- (B) Quit India Movement
- (C) Civil Disobedience Movement
- (D) Non-Cooperation Movement

42. Which one of the following slogans is attributed to Subhas Chandra Bose?

- (A) Jai Jawan Jai Kisan
- (B) Vande Mataram
- (C) Jai Hind
- (D) Inquilab Zindabad

43. Which of the following is the predominant type of Indian agriculture?

- (A) Commercial agriculture
- (B) Extensive agriculture
- (C) Plantation agriculture
- (D) Subsistence agriculture

44. The oldest mountains in India are

- (A) Aravallis
- (B) Vindhya
- (C) Satpuras
- (D) Nilgiris

45. The most fertile region of India is

- (A) the Himalayas
- (B) the Central Highlands
- (C) the Indo-Gangetic Plains
- (D) the Peninsular Plateau

46. The Union Government has launched RUSA portal as one stop for State's higher education plans. What does RUSA stand for?

- (A) Rashtriya Uttam Shiksha Abhiyan
- (B) Rashtriya Unnatsheel Shiksha Abhiyan
- (C) Rashtriya Uchchatar Shiksha Abhiyan
- (D) Rashtriya Unmukt Shiksha Abhiyan

47. Mr. Imran Khan, the potential Prime Minister of Pakistan, belongs to which of the following parties?

- (A) National Party
- (B) Pakistan Tehreek-e-Insaf
- (C) Pakistan Muslim League
- (D) Pakistan People's Party

48. Who among the following was the first Indian to win individual Olympic gold medal?

- (A) P. T. Usha
- (B) Vijender Singh
- (C) Abhinav Bindra
- (D) Dhyan Chand

49. Rovers Cup is related to which of the following sports?

- (A) Cricket
- (B) Hockey
- (C) Football
- (D) Tennis

50. Who wrote the famous 1855 poem, *The Charge of the Light Brigade*?

- (A) Lord Alfred Tennyson
- (B) Robert Browning
- (C) Christopher Marlowe
- (D) Rudyard Kipling



**PART—C : CIVIL ENGINEERING**

( Marks : 200 )

Each question carries 2 marks

51. A floating body is said to be in a state of stable equilibrium
- (A) when its metacentric height is zero
  - (B) when the metacentre is above the centre of gravity
  - (C) when the metacentre is below the centre of gravity
  - (D) None of the above
52. The device used to measure the fluid pressure is
- (A) hygrometer
  - (B) calorimeter
  - (C) manometer
  - (D) thermometer
53. Which one of the following is a major loss?
- (A) Frictional loss
  - (B) Shock loss
  - (C) Entry loss
  - (D) Exit loss
54. The Hagen-Poiseuille equation is valid for
- (A) turbulent flow
  - (B) laminar flow
  - (C) compressible flow
  - (D) supersonic flow
55. The line joining the points of highest water elevation in open-channel flow is known as
- (A) streamline
  - (B) equipotential line
  - (C) hydraulic grade line
  - (D) energy grade line
56. The hydraulic radius is defined as the ratio of
- (A) area of flow to wetted perimeter
  - (B) wetted perimeter to area of flow
  - (C) velocity of flow to area of flow
  - (D) area of flow to velocity of flow
57. In an immersed body, the centre of pressure
- (A) is at the centre of gravity
  - (B) is above the centre of gravity
  - (C) is below the centre of gravity
  - (D) could be above or below the centre of gravity
58. A fluid which obeys the Newton's law of viscosity is termed as
- (A) real fluid
  - (B) ideal fluid
  - (C) Newtonian fluid
  - (D) non-Newtonian fluid

59. The mass of  $2.5 \text{ m}^3$  of a certain liquid is 2 tonnes. Its mass density is
- 200  $\text{kg/m}^3$
  - 400  $\text{kg/m}^3$
  - 600  $\text{kg/m}^3$
  - 800  $\text{kg/m}^3$
60. The unit of viscosity is
- $\text{meter}^2/\text{sec}$
  - $\text{kg-sec/meter}$
  - $\text{Newton-sec/meter}^2$
  - $\text{Newton-sec/meter}$
61. In which of the following cases compass surveying is recommended?
- When area is small, undulating and no details are crowded
  - When area is large, undulating and crowded with many details
  - When area is small, even and crowded with many details
  - When area is large, even and crowded with many details
62. Which of the following **cannot** be done with the help of theodolite in surveying?
- Measuring horizontal distances
  - Prolonging survey lines
  - Laying off horizontal angles
  - Locating points on lines
63. Which of the following is an indirect method of surveying?
- Contouring
  - Chain surveying
  - Tacheometry
  - All of the above
64. Which of the following angles can be set out with the help of French cross-staff?
- $45^\circ$  only
  - $90^\circ$  only
  - Either  $45^\circ$  or  $90^\circ$
  - Any angle
65. The correction for sag is
- always additive
  - always subtractive
  - always zero
  - sometimes additive and sometimes subtractive
66. If the length of a chain is found to be short on testing, it can be adjusted by
- straightening the links
  - removing one or more small circular ring(s)
  - closing the joints of the rings if opened out
  - All of the above



67. Select the **incorrect** statement.

- (A) The true meridians at different places are parallel to each other.
- (B) The true meridian at any place is not variable.
- (C) The true meridians converge to a point in northern and southern hemispheres.
- (D) The maps prepared by national survey departments of any country are based on true meridians.

68. For a line  $AB$

- (A) the fore bearing of  $AB$  and back bearing of  $AB$  differ by  $180^\circ$
- (B) the fore bearing of  $AB$  and back bearing of  $BA$  differ by  $180^\circ$
- (C) Both (A) and (B)
- (D) None of the above

69. In the quadrantal bearing system, a whole circle bearing of  $293^\circ 30'$  can be expressed as

- (A)  $W\ 23^\circ 30' N$
- (B)  $N\ 66^\circ 30' W$
- (C)  $S\ 113^\circ 30' N$
- (D)  $N\ 23^\circ 30' W$

70. If a tripod settles in the interval that elapses between taking a backsight reading and the following foresight reading, then the elevation of turning point will

- (A) increase
- (B) decrease
- (C) not change
- (D) Either (A) or (B)

71. If the RL of a BM is 100.00 m, the backsight is 1.215 m and the foresight is 1.870 m, the RL of the forward station is

- (A) 99.345 m
- (B) 100.345 m
- (C) 100.655 m
- (D) 101.870 m

72. Hydrology is the science which deals with

- (A) seawater
- (B) surface and underground water
- (C) rainwater
- (D) river water

73. Hydrograph is a graphical representation of

- (A) rainfall
- (B) surface run off
- (C) groundwater flow
- (D) discharge flowing in the river

74. For the estimate of high floods in fan-shaped catchment, the formula used is

- (A) Ryve's formula
- (B) Inglis formula
- (C) Dickens' formula
- (D) None of the above

75. Run off includes

- (A) surface run off
- (B) groundwater flow
- (C) precipitation over catchment area of the stream and its tributaries
- (D) All of the above

76. Shrouding is provided in

- (A) cavity type tube wells
- (B) strainer type tube wells
- (C) slotted type tube wells
- (D) perforated type tube wells

77. The quantity of water retained by the subsoil against gravity is known as

- (A) specific retention
- (B) yield
- (C) porosity
- (D) specific yield

78. For predicting floods of a given frequency, the best reliable method is

- (A) unit hydrograph method
- (B) California method
- (C) Gumbel's analytical method
- (D) None of the above

79. The specifications of most commonly used standard gauges in India are

- (A) 100 sq. cm collector and 2 litres bottle
- (B) 100 sq. cm collector and 4 litres bottle
- (C) 200 sq. cm collector and 4 litres bottle
- (D) 200 sq. cm collector and 10 litres bottle

80. In the estimate of design flood, Dickens assumes that high flood in cumecs is proportional to catchment area raised to the power

- (A)  $1/2$
- (B)  $1/4$
- (C)  $3/4$
- (D)  $2/3$

81. A hydraulic jump in a control meter will be formed above the control, if its original

- (A) depth is equal to critical depth
- (B) depth is less than the critical depth
- (C) depth is more than the critical depth
- (D) All of the above



**82.** A barrier across flowing water that obstructs, directs or retards the flow, often creating a reservoir, lake or impoundment is referred to as

- (A) baoli
- (B) dam
- (C) tanka
- (D) ku

**83.** In India, the highest dam is

- (A) Hirakud Dam
- (B) Bhakra Nangal Dam
- (C) Salal Dam
- (D) Nagarjuna Sagar Dam

**84.** Which of the following defines Environmental Engineering?

- (A) Creation of procedures and infrastructure for water delivery
- (B) Waste disposal
- (C) Pollution control of various kinds
- (D) All of the above

**85.** Carbon dioxide is called a greenhouse gas because

- (A) they absorb heat
- (B) they absorb moisture
- (C) they absorb oxygen
- (D) they absorb hydrogen

**86.** Which process of water treatment is done to avoid floating debris, branches, trees, or other large particles suspended in water?

- (A) Primary sedimentation
- (B) Secondary sedimentation
- (C) Screening
- (D) Aeration

**87.** Which of the following is **not** a primary pollutant?

- (A) Oxygen
- (B) Ground-level ozone
- (C) Carbon monoxide
- (D) Carbon dioxide

**88.** Which of the following gases is released when alum is added to water?

- (A)  $\text{Ca(OH)}_3$
- (B)  $\text{CO}_2$
- (C)  $\text{Al(OH)}_3$
- (D)  $\text{CaSO}_4$

89. Which of the following is **not** commonly used as a filter material in the treatment of water?
- (A) Garnet sand
  - (B) Crushed rock
  - (C) Sand
  - (D) Anthracite
90. Which of the following is a bio-degradable waste?
- (A) Rubber
  - (B) Food waste
  - (C) Polythene bag
  - (D) Synthetic fiber
91. Which of the following water treatment processes is done after filtration of water?
- (A) Secondary sedimentation
  - (B) Flocculation
  - (C) Primary sedimentation
  - (D) Disinfection
92. Which of the following is an advantage of a separate water carriage system?
- (A) The more uniform character of sewage
  - (B) Two sets of sewer are used
  - (C) Gets choked easily
  - (D) Difficult to clean the sewer
93. Water obtained from \_\_\_\_\_ is generally known as subsurface water.
- (A) artesian well
  - (B) reservoir
  - (C) river
  - (D) rain
94. An egg-shaped section of sewer
- (A) provides self-cleansing velocity at low discharges
  - (B) is economical than circular section
  - (C) is easy to construct
  - (D) is more stable than circular section
95. The most suitable section of sewer in separate sewage system is
- (A) circular section
  - (B) standard form of egg-shaped sewer
  - (C) rectangular section
  - (D) modified egg-shaped section
96. Disinfection of water results in
- (A) removal of hardness
  - (B) killing of disease bacteria
  - (C) complete sterilization
  - (D) removal of turbidity



97. In building construction, which type of stone is typically used for roofing due to its ability to be split into thin sheets?
- (A) Marble      (B) Slate  
(C) Limestone      (D) Granite
98. Which of the following qualities is essential for a good building stone?
- (A) Softness  
(B) Porosity  
(C) Texture  
(D) High water absorption
99. Which stone is commonly used in construction for its fire-resistant properties?
- (A) Sandstone  
(B) Basalt  
(C) Marble  
(D) Slate
100. Which type of grading curve indicates a well-graded aggregate?
- (A) Steep curve  
(B) Uniform curve  
(C) Horizontal curve  
(D) Gradual curve
101. What effect does an excess of fine aggregates have on concrete?
- (A) Decreases workability  
(B) Increases strength  
(C) Reduces shrinkage  
(D) Improves durability
102. What is the primary purpose of using a clamp in building construction?
- (A) To provide structural support  
(B) To secure two materials together  
(C) To prevent the movement of materials  
(D) To join electrical wires
103. What is the primary advantage of using low heat cement in large-scale concrete projects?
- (A) Rapid setting time  
(B) Reduced heat generation  
(C) Enhanced color options  
(D) High early strength
104. Which property of cement makes it suitable for underwater construction?
- (A) Rapid setting  
(B) Low cost  
(C) High strength  
(D) Fire resistance

**105.** Which admixture is commonly used to improve the permeability of concrete?

- (A) Air-entraining agent
- (B) Retarder
- (C) Accelerator
- (D) Plasticizer

**106.** Sea sand is unsuitable for construction primarily due to its high content of

- (A) salt
- (B) silt
- (C) clay
- (D) organic matter

**107.** Which type of grains are desirable in sand for construction purposes?

- (A) Round and smooth
- (B) Spherical and porous
- (C) Flat and elongated
- (D) Irregular and angular

**108.** Which test is conducted to determine the bulking of sand?

- (A) Tensile test
- (B) Compression test
- (C) Sieve analysis
- (D) Bulking test

**109.** Cast iron columns are commonly used in buildings for their

- (A) lightweight nature
- (B) decorative appearance
- (C) fire resistance
- (D) high tensile strength

**110.** Which of the following lines is usually parallel to the plot boundaries and laid down in each case by the authority, beyond which nothing can be constructed towards the site boundaries?

- (A) Property line
- (B) Building line
- (C) Plot line
- (D) Control line

**111.** Which of the following is the basic law for mechanics?

- (A) Newton's law of viscosity
- (B) Parallelogram law
- (C) Newton's laws of motion
- (D) Hooke's law



**112.** Which of the following is the SI unit of force?

- (A) kg-m
- (B) kg-m<sup>2</sup>
- (C) kg-m<sup>2</sup>/s
- (D) kg-m/s<sup>2</sup>

**113.** When can two forces be in equilibrium?

- (A) They are equal in magnitude
- (B) They are collinear
- (C) They are opposite in direction
- (D) All of the above

**114.** What is a free-body diagram?

- (A) It is a sketch of a moving body that shows internal forces of the body and reaction forces
- (B) It is a sketch of an undisturbed body that shows external forces of the body
- (C) It is a sketch of an isolated body that shows external forces of the body and reaction forces
- (D) It is a sketch of a body in motion that shows bending forces of the body

**115.** The internal force in structures among the following is

- (A) gravity force
- (B) compression force
- (C) impact force
- (D) bending force

**116.** Which of the following forces **does not** cause the rotation?

- (A) Non-parallel
- (B) Non-concurrent
- (C) Parallel
- (D) Concurrent

**117.** The moment is the cross product of which of the following two vectors/scalars?

- (A) Force and radius scalars
- (B) Radius and force scalars
- (C) Force and radius vectors
- (D) Radius and force vectors

**118.** The change in the moment is equal to which of the following?

- (A) Rotational moment
- (B) Bending moment
- (C) Total weight
- (D) Area under the shear diagram



119. Which of the following types of screw is used in the machines?

- (A) Round-threaded
- (B) Helical-threaded
- (C) Rectangle-threaded
- (D) Square-threaded

120. Which of the following is used as a standard sedimentation method in a laboratory?

- (A) Sand replacement method
- (B) Pipette method
- (C) Hydrometer method
- (D) Sedimentation analysis method

121. What are the forces involved in hygroscopic water or contact moisture?

- (A) Capillary force
- (B) Adhesion force
- (C) Both (A) and (B)
- (D) None of the above

122. Seepage pressure is important for which of the following purposes?

- (A) Total head
- (B) Stability analysis
- (C) Structural arrangement
- (D) All of the above

123. Which of the following equipments is **not** used in standard compactor test?

- (A) Collar
- (B) Circular face plate
- (C) Rammer
- (D) Cylindrical metal mould

124. Which of the following **cannot** be obtained by using undrained test?

- (A) Shear strength
- (B) Effective stress failure envelope
- (C) Sensitivity
- (D) All of the above

125. Which of the following cases for cohesionless backfill in Rankine's theory is considered?

- (A) Moist backfill with no surcharge
- (B) Backfill with sloping surface
- (C) Submerged backfill
- (D) All of the above

126. Which of the following is a basic assumption of the wedge theory?

- (A) The backfill is dry
- (B) The backfill is homogeneous
- (C) The slip surface is plane
- (D) All of the above

- 127.** Earth embankments or slopes are commonly required for which of the following purposes?
- (A) Roadways
  - (B) Railways
  - (C) Earth dams
  - (D) All of the above
- 128.** Which of the following tests is used to determine the shear strength of cohesive soils?
- (A) Liquid Limit Test
  - (B) Triaxial Shear Test
  - (C) Permeability Test
  - (D) Proctor Test
- 129.** What is the typical range of the specific gravity of soil solids?
- (A) 2.0 to 2.2
  - (B) 1.2 to 1.6
  - (C) 3.0 to 3.5
  - (D) 2.6 to 2.8
- 130.** Which method is used to estimate the bearing capacity of shallow foundations?
- (A) Terzaghi's bearing capacity theory
  - (B) Sieve analysis
  - (C) Direct shear test
  - (D) Darcy's law
- 131.** The process of soil compaction increases which of the following?
- (A) Soil compressibility
  - (B) Soil shear strength
  - (C) Soil porosity
  - (D) Soil permeability
- 132.** Which factor is most crucial in slope stability analysis?
- (A) Soil temperature
  - (B) Groundwater table depth
  - (C) Soil color
  - (D) Angle of internal friction
- 133.** In a consolidation test, the void ratio of soil is plotted against which parameter?
- (A) Load intensity
  - (B) Time
  - (C) Hydraulic gradient
  - (D) Permeability
- 134.** Which of the following conditions is assumed in Rankine's earth pressure theory?
- (A) The soil is partially saturated
  - (B) The soil is homogeneous and isotropic
  - (C) The wall is perfectly rigid and smooth
  - (D) The wall moves towards the soil



135. What is the primary purpose of soil stabilization?
- (A) To decrease soil density
  - (B) To increase soil's natural moisture content
  - (C) To alter soil color and texture
  - (D) To improve soil strength and durability
136. Which term describes the vertical downward movement of the ground due to load application?
- (A) Creep
  - (B) Compaction
  - (C) Settlement
  - (D) Heave
137. If the longitude coefficient of friction is 0.4, then the resultant retardation in  $\text{m/sec}^2$  as per IRC will be
- (A) 3.93
  - (B) 4.00
  - (C) 4.01
  - (D) 4.02
138. What is the principle behind mechanical stabilization of roads?
- (A) Increasing the road width
  - (B) Reducing traffic congestion
  - (C) Reinforcing the road structure using mechanical devices
  - (D) Adding asphalt to the road
139. The full form of MoRTH is
- (A) Ministry of Rail Transport and Highways
  - (B) Ministry of Road Transport and Highways
  - (C) Ministry of Road Traffic and Highways
  - (D) Ministry of Road, Terrain and Highways
140. The current highway development works in India are undertaken by
- (A) NHAI
  - (B) Govt. of India
  - (C) State Government
  - (D) NHDP
141. Which of the following describes a method that is **not** frequently used in structural analysis to find member forces?
- (A) Matrix structural analysis
  - (B) Method of sections
  - (C) Slope-deflection method
  - (D) Static equilibrium analysis
142. In the case of a structural member supporting more than one floor with load exceeding 100 psf, what is the maximum permitted reduction %?
- (A) 20
  - (B) 25
  - (C) 15
  - (D) 10



- 143.** Which of the following is statically determinate structure?
- (A) Two-hinged arch
  - (B) Fixed beam
  - (C) Double overhanging
  - (D) Continuous beam
- 144.** Which type of steel is commonly used for cold-forming processes in construction?
- (A) Mild steel
  - (B) High-strength low-alloy steel
  - (C) Tool steel
  - (D) Stainless steel
- 145.** Which method is mainly adopted for the design of steel structures as per IS code?
- (A) Earthquake Load Method
  - (B) Ultimate Load Method
  - (C) Limit State Method
  - (D) Working Stress Method
- 146.** Which of the following relations 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  $\times$  Partial Factor of Safety
  - (D) Design Strength = Ultimate Strength - Partial Factor of Safety
- 147.** PERT technique of network analysis is mainly useful for
- (A) small projects
  - (B) large and complex projects
  - (C) research and development projects
  - (D) deterministic activities
- 148.** As per IS 456, the minimum number and size of vertical reinforcement in a rectangular column are respectively
- (A) 4 and 12
  - (B) 6 and 16
  - (C) 8 and 20
  - (D) None of the above
- 149.** The gross diameter of a rivet is the diameter of
- (A) cold rivet before driving
  - (B) rivet after driving
  - (C) rivet hole
  - (D) None of the above
- 150.** As per IS 456, nominal mix for M20 is
- (A) 1 : 2 : 4
  - (B) 1 :  $1\frac{1}{2}$  : 3
  - (C) 1 : 1 : 2
  - (D) None of the above