

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

23-0005-AB

TEST BOOKLET
PAPER-II
CIVIL ENGINEERING ASSISTANT

Time Allowed: 1 hr

Maximum Marks: 50

INSTRUCTIONS TO CANDIDATES

Read the instructions carefully before answering the questions: -

1. This Test Booklet consists of 08 (eight) pages and has 50 (fifty) questions.
2. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
3. Please note that it is the candidate's responsibility to fill in the Roll Number and other required details carefully and without any omission or discrepancy at the appropriate places in the OMR Answer Sheet. Any omission/discrepancy will render the OMR Answer Sheet liable for rejection.
4. Do not write anything else on the OMR Answer Sheet except the required information. Before you proceed to mark in the OMR Answer Sheet, please ensure that you have filled in the required particulars as per given instructions.
5. Use only Black Ball Point Pen to fill the OMR Answer Sheet.
6. Each question comprises of 04 (four) responses (answers). You are required to select the response which you want to mark on the OMR Answer Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose *ONLY ONE* response for each item.
7. After you have completed filling in all your responses on the OMR Answer Sheet and the examination has concluded, you should hand over to the Invigilator *only the OMR Answer Sheet*. You are permitted to take the Test Booklet with you.
8. Penalty for wrong answers in case of Multiple Choice based Questions:
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one-third of the marks assigned to the question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above to the question.
 - (iii) If a question is left blank. i.e., no answer is given by the candidate; there will be no penalty for that question.

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CIVIL ENGINEER ASSISTANT

Choose the correct answer for the following questions: (1 x 50 = 50)

1. What should be the minimum insulation resistance for a low voltage electrical installation?
 - (a) 0.5 MΩ
 - (b) 1 MΩ
 - (c) 2 MΩ
 - (d) 5 MΩ
2. Which of the following is the correct order of actions for providing first aid in case of electric shock?
 - (a) Call for help, disconnect the power source, perform CPR
 - (b) Disconnect the power source, perform CPR, call for help
 - (c) Perform CPR, disconnect the power source, call for help
 - (d) Call for help, perform CPR, disconnect the power source
3. Which of the following materials is a good conductor of electricity?
 - (a) Rubber
 - (b) Glass
 - (c) Copper
 - (d) PVC
4. What is the function of an earth electrode in an electrical installation?
 - (a) To provide a return path for current
 - (b) To provide a voltage reference point
 - (c) To provide protection against electric shock
 - (d) To provide a surge protection device
5. Which of the following materials is used as an insulator in electrical wiring?
 - (a) Aluminium
 - (b) Silver
 - (c) Gold
 - (d) Rubber
6. Which of the following materials is NOT commonly used in plumbing?
 - (a) Glass
 - (b) PVC
 - (c) Copper
 - (d) Steel
7. Which of the following tools is used to cut PVC pipes?
 - (a) Hacksaw
 - (b) Pipe cutter
 - (c) Bolt cutter
 - (d) Wire stripper
8. Which of the following fittings is used to join two pipes of the same diameter at a right angle?
 - (a) Tee
 - (b) Coupling
 - (c) Elbow
 - (d) Cross

9. What is the purpose of a tap and die set?
- (a) To cut threads on bolts and nuts
 - (b) To cut pipes to length
 - (c) To cut holes in wood
 - (d) To cut curves in metal
10. What is the purpose of a kitchen sink strainer?
- (a) To prevent food scraps from entering the plumbing system
 - (b) To increase water pressure in the kitchen sink
 - (c) To prevent odours from escaping from the kitchen sink
 - (d) To reduce the amount of water used in the kitchen sink
11. The defect caused due to over-maturity and unventilated storage of wood during its transit -
- (a) Knot
 - (b) Rind gall
 - (c) Foxiness
 - (d) Heart shake
12. The timber whose thickness is less than 5 cm and width exceeds 12 cm, is called a -
- (a) Board
 - (b) Plank
 - (c) Batten
 - (d) Log
13. Which of the following trees yield hard wood?
- (a) Deodar
 - (b) Chir
 - (c) Shishum
 - (d) Pine
14. Plywood is made by bonding together thin layers of wood in such a way that the angle between grains of any layer to grains of adjacent layers is -
- (a) 0°
 - (b) 45°
 - (c) 75°
 - (d) 90°
15. The representative fraction $1/2500$ means that the scale is -
- (a) 1 cm = 0.25 m
 - (b) 1 cm = 2.5 m
 - (c) 1 cm = 25 m
 - (d) 1 cm = 250 m
16. A good building stone is one which does not absorb more than _____ of its weight of water after one-day immersion.
- (a) 5%
 - (b) 10%
 - (c) 16%
 - (d) 20%
17. Granite is not suitable for ordinary building purpose because:
- (a) It cannot be polished
 - (b) It is not a fire proof material
 - (c) It is costly
 - (d) It has less crushing strength

18. Which of the following constituents, when present in excess quantity in clay causes the bricks to melt and distort during burning?
- (a) Alumina
 - (b) Silica
 - (c) Lime
 - (d) Alkali
19. Crushing strength of a first class brick should not be less than -
- (a) 5.0 N/mm^2
 - (b) 8.0 N/mm^2
 - (c) 10.5 N/mm^2
 - (d) 13.5 N/mm^2
20. The lime mortar is made from -
- (a) Quick lime
 - (b) Fat lime
 - (c) Lean lime
 - (d) Hydraulic lime
21. The lime which contains more than 30% of clayey impurities in the form of silica, alumina and iron oxide is -
- (a) Poor lime
 - (b) Rich lime
 - (c) Hydraulic lime
 - (d) Lime stone
22. Le Chatelier's device is used for determining the -
- (a) Setting time of cement
 - (b) Soundness of cement
 - (c) Tensile strength of cement
 - (d) Compressive strength of cement
23. As per IS specifications, the maximum final setting time for ordinary Portland cement should be -
- (a) 30 minutes
 - (b) 1 hour
 - (c) 6 hours
 - (d) 10 hours
24. The main ingredients of Portland cement are -
- (a) Lime and silica
 - (b) Lime and alumina
 - (c) Silica and alumina
 - (d) Lime and iron
25. The lowest part of structure which transmits the load to the soil is known as -
- (a) Super-structure
 - (b) Plinth
 - (c) Foundation
 - (d) Basement
26. The failure of foundation of a building is due to -
- (a) Withdrawal of subsoil moisture
 - (b) Unequal settlement of soil
 - (c) Lateral escape of the supporting material
 - (d) All of these

27. For a rectangular foundation of width 'b', the eccentricity of the load should not be greater than -
(a) $b/3$
(b) $b/4$
(c) $b/5$
(d) $b/6$
28. When two or more footings are connected by a beam, it is called -
(a) Beam footing
(b) Combined footing
(c) Strap footing
(d) Mat footing
29. The brick laid with its length parallel to the face of wall is called a -
(a) Course
(b) Stretcher
(c) Header
(d) Closer
30. Spirit varnish consists of -
(a) Spirit and wax
(b) Spirit and shellac
(c) Turpentine, spirit and wax
(d) Turpentine, spirit and shellac
31. A semi-rigid material which forms an excellent impervious layer for damp-proofing, is called
(a) Bitumen
(b) Mastic asphalt
(c) Aluminal
(d) Bituminous felt
32. A type of flooring made with special aggregate of marble chips mixed with white and coloured cement, is called -
(a) Granolithic flooring
(b) Terrazzo flooring
(c) Mosaic flooring
(d) Asphalt flooring
33. Geodetic surveying is different from plane surveying because of -
(a) The curvature of the earth
(b) The large difference of elevation between various points
(c) Coverage of very large area
(d) Undulations of the topography
34. Number of links in a 30 m chain is -
(a) 100
(b) 150
(c) 180
(d) 200
35. The position of a point can be fixed more accurately by -
(a) Cross staff
(b) Optical square
(c) Oblique offsets
(d) Perpendicular offsets

36. If the quadrantal bearing of a line is $N25^{\circ}W$, then the whole circle bearing of line is -
(a) $S25^{\circ}E$
(b) 205°
(c) 335°
(d) 295°
37. The following sights are taken on a "turning point" -
(a) Foresight only
(b) Back sight only
(c) Foresight and Back sight
(d) Foresight and intermediate sight
38. The field of activities of an engineer includes
(a) Estimation
(b) Approval and payment of work done by contractor
(c) Inspection and payment of work done by contractor
(d) All of the above
39. The resources in a construction project are made up of
(a) Plant equipment and machinery required for the project
(b) Construction materials such as cement, bricks steel etc.
(c) Skilled and unskilled manpower
(d) All of the above
40. A series of steps without any platform, breaks or landing in their direction, is called -
(a) Riser
(b) Tread
(c) Flight
(d) Nosing
41. The pitch of stair should never exceed -
(a) 20°
(b) 25°
(c) 30°
(d) 40°
42. Lines for hidden edges are drawn as
(a) Dashed thick (wide)
(b) Dashed thin (narrow)
(c) Continuous thick
(d) Continuous thin
43. The workability of cement concrete can be improved by -
(a) Increasing the quantity of cement
(b) Increasing the proportion of coarse aggregate
(c) Increasing the quantity of sand
(d) All of the above
44. Strength of concrete increases with -
(a) Increase in water-cement ratio
(b) Increase in fineness of cement
(c) Decrease in curing time
(d) Decrease in size of aggregate

45. Bulking of sand is maximum if moisture content is about -
- (a) 2%
 - (b) 4%
 - (c) 6%
 - (d) 8%
46. For vertical structural members like columns, walls etc. the form work is generally removed after -
- (a) 1 day to 2 days
 - (b) 3 days
 - (c) 7 days
 - (d) 14 days
47. The slab is designed as one way if the ratio of long span to short span is -
- (a) Less than 1
 - (b) Between 1 and 1.5
 - (c) Between 1.5 to 2
 - (d) Greater than 2
48. According to IS: 456-2000, the maximum strain in concrete at the outer most compression fibre in the limit state design of flexure member is -
- (a) 0.002
 - (b) 0.035
 - (c) 0.0035
 - (d) 0.0050
49. A wall built to resist the pressure of earth filling is known as-
- (a) Breast wall
 - (b) Retaining wall
 - (c) Parapet wall
 - (d) Buttress
50. The solvent used in cement paints is -
- (a) Thinner
 - (b) Turpentine
 - (c) Water
 - (d) Spirit
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Space for rough work