



Tertiary and Vocational Education Commission
Knowledge Assessment – July 2022
Construction Site Supervisor
National Vocational Qualification Level 04



Time: 1 1/2 Hours

Instructions for the Candidates

- Answer all questions
 - In each of the questions from 1 to 50, pick the one of the alternatives (a), (b), (c), (d) which you consider is correct or most appropriate.
 - Mark a cross (x) on the number corresponding to your choice in the answer sheet provided.
 - This question paper consists of 08 pages.
-

Part 1

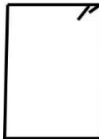
1. How do you plan about the following day labour requirement?
 - a) By calculating the workload from weekly plan
 - b) On instruction of the immediate superior
 - c) Self-assumption
 - d) By continuing the previous day workload
2. How do you control the wastage of material?
 - a) By issuing according to the estimation
 - b) By instructing workers
 - c) By cutting down the earnings of the workers
 - d) By giving the tasks till the material is over
3. According to the labour rules and regulations, state the number of hours a person has to work in a day?
 - a) 7
 - b) 8
 - c) 9
 - d) 10
4. The mason per unskilled labourer ratio for the most efficient brick laying team for a simple walling application is;
 - a) 1: 1
 - b) 1 :2
 - c) 1: 3
 - d) 1 : 4
5. Quarter run staircase has a turn of
 - a) 180⁰
 - b) 90⁰
 - c) 45⁰
 - d) No specific angle

6. What is the term that is used to indicate the period during which the equipment is in idling condition?
 - a) Depreciation
 - b) Idling time
 - c) Inadequacy
 - d) Normal deterioration

7. What is the most appropriate use of a mechanical scraper?
 - a) Excavating a trench
 - b) Levelling over a large area.
 - c) Loading a lorry
 - d) Moving spoil across site

8. Main constituents of Cement are;
 - a) Lime & Alumina
 - b) Lime & iron
 - c) Silica & Alumina
 - d) Lime & Silica

9. The best material for monumental building is;
 - a) Sand stone
 - b) Cobble stone
 - c) Rubble
 - d) Marble

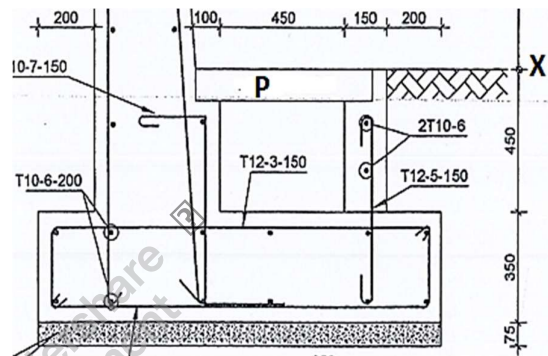
10. A cross section of R/F detail of a 350mm x 250mm column is given below;
Clear cover is 25mm, bar diameter is 6mm, Length of Stirrup is;
 - a) 1020mm
 - b) 1320mm
 - c) 1000mm
 - d) 880mm

11. One of the differences between a “Bend” and an “Elbow” in a water supply system is;
 - a) The velocity of the water flow at a bend is higher than elbow.
 - b) The velocity of the water flow at an elbow is less than a bend
 - c) There is no change of the velocity of water flow at a bend and at an elbow
 - d) The reduction of the velocity of water flow at a bend and at an elbow is equal.

12. What is the most suitable “trap” for a wash basin?
 - a) “S” Trap
 - b) “P” Trap
 - c) “Q” Trap
 - d) “Bottle” Trap

13. Most suitable location to place a Tar boiler during repairing a road surface is;
- A closed place with limited air circulation
 - An open place with more air circulation
 - Higher elevation about 1m above the road surface
 - There is no restrictions for this
14. Name the best method for calculating the volume of soil required for backfill for a wall foundation in a slope
- Measuring length and width
 - Measuring length, width and height
 - Measuring length, width and average height
 - By visual inspection
15. Refer the given R/F detail drawing of a foundation and select the correct answer.

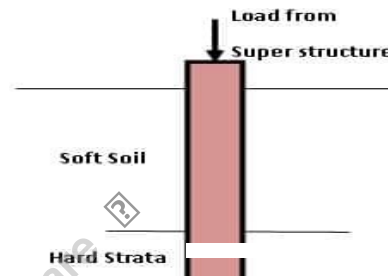
- There are 200 numbers r/f of 10mm
- There are r/f of 10mm and 12 mm
- There are 5 numbers r/f of 12m
- There are r/f of 150mm and of 200mm



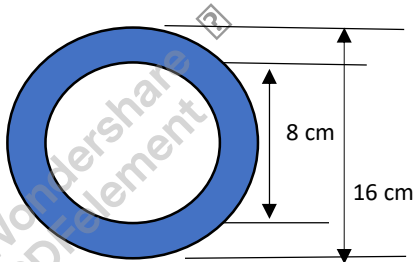
16. The steps in manufacturing of bricks are listed below. What is the correct order of the steps that needs to be followed?
- A. Burning B. Preparation of earth/clay C. Drying in breeze D. Moulding
- A, B, C, D
 - B, D, C, A
 - B, C, A, D
 - D, C, B, A
17. The term “nosing” in stairway construction refers to;
- Front of the tread
 - Rear of the tread
 - Surface of the riser
 - Surface of the tread
18. What is the name used for wooden planks fixed on the edge of the roof at the gable end?
- Valance board
 - Eaves board
 - Barge board
 - Gutter board

19. The best type of cement used in sewer man hole construction is;
- Rapid Hardening Portland cement
 - Ordinary Portland cement
 - Sulphate Resisting Portland cement
 - Low Heat Portland cement
20. In Surveying & levelling, “Back Sight” (BS) is meant by;
- The first reading of the staff after the instrument was set up
 - The last reading of the staff before the instrument moved to another location
 - Any reading of the staff after the first reading
 - The reading at a change position of the instrument
21. What is the name of the foundation as per the given drawing;

- Friction pile
- End bearing pile
- Compaction pile
- Sheet pile



22. How do you understand “cover” in a r/f concrete?
- The gap between finished line of concrete and the edge of r/f bar
 - The gap between center of r/f bar and formwork
 - The gap between two r/f bars
 - The gap between top r/f bar and bottom r/f bar
23. In a R.C.C. beam, the distances between all the stirrups are not the same. The distances are getting reduced;
- At the centre
 - Near the supports
 - At $\frac{1}{3}$ span of the beam
 - At $\frac{2}{3}$ span of the beam
24. Two bars of 12mm diameter connected in a column. Find the lap length;
- 120mm
 - 240 mm
 - 600mm
 - 720mm
25. What is the purpose of adding retarders to concrete?
- To increase the setting time
 - To decrease the setting time
 - To increase the tensile strength
 - To increase the compressive strength

26. A stile is a part of;
- A door frame.
 - A window
 - A door sash
 - A Fan Light frame
27. The window frame is fixed to the wall;
- Only by the horn
 - By the hold past
 - only by the horn and hold past
 - by Node stone
28. What is the most important function of a kicker?
- It supports to erect the column shutters vertically
 - It prevents the grout loss
 - It is demarking the column position
 - It supports to check the column lines
29. The area of the shaded part in figure is;
- $64 \pi \text{ cm}^2$
 - $82 \pi \text{ cm}^2$
 - $48 \pi \text{ cm}^2$
 - $92 \pi \text{ cm}^2$
- 
30. A hired concrete mixer has been operated for 5 hours and 40 minutes. If the hourly rate is Rs. 3600, what is the amount to be paid at the end?
- Rs. 20,400
 - Rs. 19,800
 - Rs. 19,200
 - Rs. 20,700
31. A contractor wants to suspend a brick wall construction for some time and restart later. What is the best method to stop it? I
- Toothing
 - Stepping
 - Stopping vertically
 - Any means
32. The valve that is used to control the water level in a domestic water tank is;
- Ball valve
 - Non return valve
 - Stop valve
 - Foot valve

33. The purpose of installing a Vent pipe in a waste water disposal is mainly;
 - a) To support smooth flow of waste water
 - b) To prevent insects/ worms getting into the system
 - c) To release emitting odour and gases
 - d) To use as a bypass for the system
34. Landing is a part of a staircase. After how many steps, a landing should be constructed for a comfortable climb?
 - a) 16 -20
 - b) 8 -10
 - c) < 8
 - d) 12- 15
35. The best statement explaining an “accident” is:
 - a) Accidents are completely unpredictable
 - b) Accidents cannot be avoided
 - c) Accidents are rarely happening;
 - d) Accidents are usually preventable
36. When scaffolding is used at a site, the most important statement on safety is;
 - a) Scaffolding can be erected at any site without much problem
 - b) Stability should be checked every day before use by a competent person.
 - c) Hanging scaffolding are more vulnerable for accidents
 - d) All the labour groups should have training on using scaffolding
37. Material that emits gases, causes more breathing difficulties is;
 - a) Plywood
 - b) Cement bags;
 - c) Asbestos
 - d) Timber
38. If you deploy a person to work on an electrical control panel, you should ensure that;
 - a) The person should wear a helmet
 - b) The person should stand on a plastic platform
 - c) The person should be a trained person
 - d) The person should wear gloves
39. Health and safety regulations at a site are applicable?
 - a) Only for employees in large organizations
 - b) For all employees of the organization
 - c) For those who work in hazardous services
 - d) Only for all labour grades

40. The direction of the flow of messages between parallel peers of the organization is?
- Vertical
 - Diagonal
 - Horizontal
 - Any direction
41. The most important reason for insulating the electrical conductors is;
- To limit the consequences of a short circuit;
 - To prevent contact with live parts.
 - To prevent catching fire of non-conductive materials due to static electricity
 - None of the above
42. What is the type of work that requires the use of tools such as spanner/pipe wrench, pipe cutter?
- Masonry
 - Carpentry
 - Tiling
 - Plumbing
43. What is the drawing that contains entire details, annotation and measurement for a construction activity?
- Location drawing
 - Sketch drawing
 - Construction drawing
 - Concept drawing
44. Which of the following rate is used to calculate the over time in a normal working day?
- 3 times the normal hour rate
 - 2.5 times the normal hour rate
 - 2 times the normal hour rate.
 - 1.5 times the normal hour rate
45. Which of the following is used to record the daily activities and important events? ,
- Supervisor's note book
 - Log book
 - E mail
 - Signature book
46. Employees have the right to receive EPF at retirement. During their working years, who should pay monthly EPF to the Labour Dept.?
- Employer & Employee
 - Only respective Statutory boards, Authorities and Corporations
 - Individual person
 - Employer only

47. If you are to mobilize to a new site, the first activity that you should do is:
- a) Build temporary labour accommodation and a temporary site office
 - b) Identify site boundaries and fencing
 - c) Building a temporary access road
 - d) Obtaining service connections
48. If the site is situated in a marsh area and bordering a canal that needs dredging, what is the organisation that you should get initial assistance and approvals?
- a) Local Authority
 - b) Urban Development Authority (UDA)
 - c) Sri Lanka Land Reclamation & Development Corporation (SLLRDC)
 - d) State Development & Construction Corporation (SD& CC)
49. Which of the following is NOT a barrier for effective listening?
- a) Being in the wrong frame of mind to listen
 - b) Focusing on the delivery of the message rather than the message
 - c) Preparing your response at the same time the speaker is talking
 - d) Wanting to listen more than talking
50. The purpose of the slump test is;
- a) To test the workability of concrete
 - b) To test the compressive strength of concrete
 - c) To test the soil composition
 - d) To test the soil bearing capacity

(01 x 50 = 50 marks)



Tertiary and Vocational Education Commission
Knowledge Assessment – July 2022
Construction Site Supervisor
National Vocational Qualification Level 04



Time: 1 1/2 Hours

Instructions for the Candidates

- Answer four (04) Questions including First (1) Question (First (01) question is compulsory and total number of questions should be answered is four (04)).
- Answer the questions in the spaces provided in the same question paper
- This question paper consists of 07 pages.

Part 2

1.

- i). Brick walls are very common in construction as bricks are cheaper, readily available and easy to build. Give examples for four (04) types of brick bonds. Select one of them, draw a sketch of it and name parts.

(04 marks)

- ii). Roads have to be maintained periodically and it will reduce the cost of major repairs in the long run. List out four (04) defects on road surfaces and explain the causes for them.

(04 marks)

iii). A single storied dwelling house gets the water supply to the overhead tank from a 9m deep well located at the same land. (04 marks)

a) Draw a sketch of the water supply system and name all parts.

b) Give examples of four (04) types of valves and most suitable places for fixing them.

iv). For the construction sites, especially in large sites, there should be a place called as “Fire assembly point”. Explain the purpose of it. (02 marks)

2.

- i). Define “Admixtures” in concrete. Give examples of three (03) types of them and describe the conditions or places of their use in concreting. (06 marks)

- ii). When pouring concrete to a column, what is the maximum height that is recommended by the construction experts? If you exceed that height, what are the consequences? Briefly explain the reasons for them. (04 marks)

- iii). Name two (02) functions of a Manhole. (02 marks)

3.

- i). In road construction, compaction is an essential element to minimise repairs and to maintain the quality standards. The following machines are frequently deployed at sites.

- a) Pneumatic Tyred roller
- b) Sheep foot roller
- c) Plate compactor
- d) Tandem Roller

Explain the places and conditions of the use of the above machineries / equipment and the reasons for them. (08 marks)



- ii). Explain the importance of compaction and curing of concrete. (04 marks)

4.

- i). A client required to fix a ceiling to his house and bought asbestos sheets of 1200mm x 1200mm. Draw a sketch of the ceiling and name parts. Suggest suitable sizes for the members of the frame work. (06 marks)

- ii). Very often, Construction site supervisors have to work closely with the following officials;

- a) Supervising Engineer/ Senior Technical officer
- b) Store keeper

Name two (02) types of documents that you have to use to communicate with each of the above officer in a site. Explain the purpose of those documents.

(06 marks)

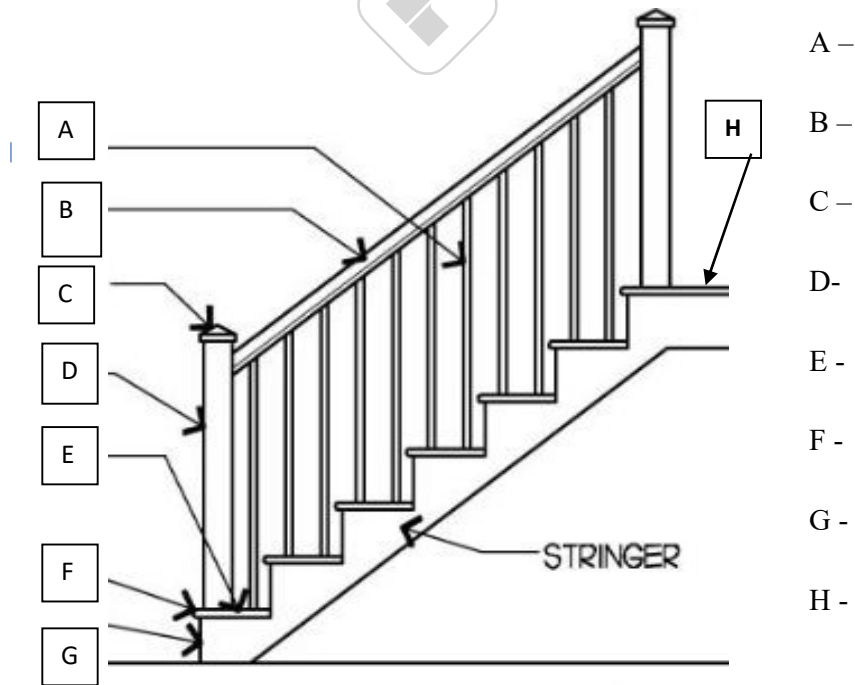
5.

- i). As a supervisor, you have the responsibility of providing safe working conditions at the site. Give four (04) examples of hazardous materials or chemicals that are used in construction. Select two (02) of them and describe how do you store them and the precautions you take to reduce any risks or danger.

(08 marks)

- ii). Name the parts of the stair case given in the figure.

(04 marks)



6. Select three (03) of the followings and write short notes; (04 x 3 = 12 marks)
- i). Well graded soil
 - ii). Accident Record Book
 - iii). Test for good bricks
 - iv). Defects of a cemented floor
 - v). Septic tank

