

## Bar Bender and Steel Fixer

### Theory Paper

#### Assessment for Certification, Level 4

**Total Marks: 120 marks**

**Time: 90 min**

<b>Qualification Pack</b>	Bar Bender and Steel Fixer
<b>Reference ID</b>	CON/Q0203
<b>NSQF Level</b>	4
<b>Sector</b>	Construction
<b>Occupation</b>	Bar Bending and Fixing

<b>CANDIDATE'S DETAILS (Fill in capital letters only)</b>		
CANDIDATE'S NAME		
CANDIDATE'S FATHER NAME		
SDMS ENROLMENT ID		AADHAR NUMBER
BATCH ID		
TRAINING CENTER NAME		LOCATION
TRAINER NAME	SIGNATURE:	
ASSESSOR NAME	SIGNATURE:	
CANDIDATE'S SIGNATURE		DATE

**TP/ TC stamp with signature:**

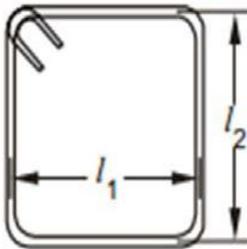
**Read the instruction carefully before starting:**

- The assessment comprises of Theory, Practical.
- The theory section has 6 parts, consisting 48 numbers of questions (24 questions each for 2 and 3 marks).
- Write your name, aadhar number, father name, signature in the designated space.
- Use only Blue/ Black Ball point pens to fill/ answer the question paper.
- Read the questions carefully before answering.
- Put a tick mark (✓) against the right option.
- The tick mark (✓) should only be in the box which you want to mark as an answer.
- Select the most appropriate answer for multiple choice questions.

## Theory Question Paper

**CON/N0204 Read and understand routine drawings/ sketches and Bar Bending Schedule.**

1. What is the meaning of rebar statement "6 – 8Φ @300 c/c"? **(3 marks)**
  - a) 8 numbers of 6mm diameter rebar at a spacing of 300 mm center to center
  - b) 300 numbers of 8mm diameter rebar at a spacing of 6 mm center to center
  - c) 8 numbers of 6mm diameter rebar at a spacing of 250 mm center to center
  - d) 6 numbers of 8mm diameter rebar at a spacing of 300 mm center to center
2. The diameter of the main reinforcement bar in column should not be less than \_\_\_\_\_. **(3 marks)**
  - a) 8 mm
  - b) 10 mm
  - c) 12 mm
  - d) 16 mm
3. Which of the following gives total length of rebar as per BBS? **(2 marks)**
  - e) Numbers of bars x length of bar
  - f) Diameter of bars x length of bar
  - g) Total area of bar/ cross section area of bar
  - h) Unit weight of bar x length of bar
4. What is the cutting length of the stirrup shown below? (d= diameter of bar) **(3 marks)**



- a)  $2 \times (L_1 + L_2) - 5 \times 2d + 2 \times 9d$
  - b)  $2 \times (L_1 + L_2) + 5 \times 2d + 2 \times 9d$
  - c)  $2 \times (L_1 \times L_2) - 5 \times 2d + 2 \times 9d$
  - d)  $2 \times (L_1 \times L_2) - 5 \times 2d + 2 \times 9d$
5. Unit weight of rebar will be given by \_\_\_\_\_ (in kg/m)? **(3 marks)**
    - e)  $(D \times D) / 162$
    - f)  $(D \times D) / 555$
    - g)  $(D \times D) / 126$
    - h) None
  6. Which of the following should be referred while cutting and bending the rebars? **(2 marks)**
    - a) Concrete mixture
    - b) Sketch/ drawings
    - c) Number of chairs
    - d) All of these
  7. What is the purpose of chair bars? **(2 marks)**

- a) Decrease the strength of structure
- b) Prevent corrosion
- c) Support metal rebars
- d) All of the above

8. Identify the image shown below?

(2 marks)



- a) Cover block
- b) Chair bar
- c) Tie
- d) None of these

**CON/N0205: Use hand and power tools for cutting and bending of reinforcement.**

9. What is the allowable tolerance limit for the diagonal measurement of a stirrup?

(3 marks)

- a) +/- 15 mm
- b) +/- 12 mm
- c) +/- 05 mm
- d) +/- 10 mm

10. Identify the tool shown below?

(2 marks)



- a) Bar bending lever
- b) Bar threading lever
- c) Bar binding lever
- d) None

11. Identify the power tool shown below?

(2 marks)



- a) Bar bending machine
- b) Bar threading machine
- c) Bar shearing machine
- d) Bar straightening machine

12. Why is it important to tag a rebar? (2 marks)

- a) To decorate it
- b) To identify it
- c) To test it
- d) All of these

13. Which of the following is the ideal diameter of spandrel to bend a 25 mm diameter rebar? (3 marks)

- e) 16 mm
- f) 50 mm
- g) 25 mm
- h) 10 mm

14. Identify the purpose of following power machine? (2 marks)



- a) Polishing
- b) Bar Bending
- c) Bar cutting
- d) All of these

15. What is the unit weight of steel? (3 marks)

- a) 8750 kg/m<sup>3</sup>
- b) 8570 kg/m<sup>3</sup>
- c) 7750 kg/m<sup>3</sup>
- d) 7850 kg/m<sup>3</sup>

16. 1 foot = \_\_\_\_\_ inch = \_\_\_\_\_ cm? (3 marks)

- a) 11 & 30.48
- b) 12 & 29.48
- c) 11 & 29.48
- d) 12 & 30.48

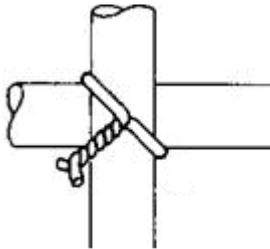
**CON/N0206: Prepare, fabricate, place and fix reinforcement for RCC structures.**

17. Which of the following should be fabricated before shuttering in normal condition? **(2 marks)**
- a) column
  - b) beam
  - c) slab
  - d) All of the above

18. What is the maximum percentage of splicing allowed in a single lapping zone? **(3 marks)**
- a) 60%
  - b) 70%
  - c) 45%
  - d) 50%

19. Which of the following tie is recommended for lapping of rebar? **(2 marks)**
- a) Crown tie
  - b) Splice tie
  - c) Hair ring tie
  - d) Slash tie

20. Identify the types of tie shown in the figure? **(3 marks)**



- a) Crown tie
  - b) Slash tie
  - c) Hair pin tie
  - d) Splice tie
21. What will be the tolerance level for the cutting length of stirrup when minimum length is specified? **(2 marks)**
- a) + 5 mm
  - b) + 50 mm
  - c) + 10 mm
  - d) None
22. What will be the lap length of 25 mm diameter rebar to extend a column? **(3 marks)**
- a) 1000 mm
  - b) 1400 mm
  - c) 1300 mm
  - d) 1250 mm
23. Rearrange the sequence of fabrication of the beam reinforcement. **(3 marks)**
- A. Hang top main rebar horizontally using required support
  - B. Insert bottom extra rebar from end of the beam

- C. Insert bottom main bars and tie on its position
- D. Mark and insert required number of stirrups
  - a) ADBC
  - b) DBAC
  - c) ADCB
  - d) BCDA

24. Which one of the following required lap of the rebars during its fabrication? **(2 marks)**
- a) Beam
  - b) Column
  - c) Slab
  - d) All of the above

**CON/N8001: Work effectively in a team to deliver desired results at the workplace.**

25. Team occur when a number of people have \_\_\_\_\_ and recognize that their personal success is dependent on the success of other? **(2 marks)**
- a) Same manager
  - b) Similar jobs
  - c) A common goal
  - d) A shared work environment
26. What should you do in case you have a conflict with one of your teammates? **(2 marks)**
- a) Keep quiet and not talk to him
  - b) Fight with him
  - c) Try to solve by discussing
  - d) Revenge him
27. What will happen if you do not interact with your co- worker? **(2 marks)**
- a) De-motivation
  - b) Encouragement
  - c) Excitement
  - d) None
28. Team creativity can be promoted in which of the following ways? **(3 marks)**
- a) Establishing a competitive environment to promote creative ideas
  - b) By reporting to the supervisor
  - c) Stressing deadlines to encourage intensity and focus
  - d) None
29. What will you do in case you are not well versed with some critical procedure in your work? **(2 marks)**
- a) Stay quiet and finish it somehow
  - b) Ask for help from the procedure expert
  - c) Decline to work
  - d) Any one of these

30. Which among the following will you do if the bar bending machine provided to you has a fault?

**(3 marks)**

- a) Use the damaged machine
- b) Report to the supervisor
- c) Dispose the machine
- d) None

31. Which of these is not a key feature of a team?

**(3 marks)**

- a) Mutual independence
- b) Mutual purpose
- c) Shared responsibilities
- d) Working in a same department

32. Teamwork in an organization leads to organizational:

**(3 marks)**

- a) Empowerment
- b) Weakness
- c) Economy fall
- d) Skills

**CON/N8002: Plan and organize work to meet expected outcomes.**

33. First step in planning process is to?

**(3 marks)**

- a) Set an objective
- b) Evaluate alternatives
- c) Determine strength & weakness
- d) None

34. Sharing work is a good idea when?

**(2 marks)**

- a) People are nice to you
- b) When you take in other's skill set into consideration
- c) When you are feeling lazy
- d) When you are sick

35. Work done should be of high quality despite constraints?

**(2 marks)**

- a) No
- b) yes
- c) impossible
- d) depends on manager

36. Which among the following is/are required when setting a work schedule?

**(2 marks)**

- a) Resource required
- b) Time required for completing per task component
- c) Both of these
- d) None

37. Which among these resources should be estimated before starting the work?

**(3 marks)**

- e) Quantity of materials
- f) Leaves

- g) Wastage of materials
  - h) All of these
38. What would happen if a bar bender produces a lot of output in given time but without adhering to the quality specifications? **(2 marks)**
- e) The supervisor would love it
  - f) The team may earn a bonus from the employer
  - g) Nothing would happen
  - h) The work may fail while inspection
39. Which of the statement is true? **(3 marks)**  
A good objective should
- I. clarify the desired result;
  - II. Enables achievement to be measured; and
  - III. Need not specify a time scale
- a) I. only
  - b) All of them
  - c) I. and II.
  - d) II. Only
40. Which of the following is the basic requirement of preparing work schedule? **(3 marks)**
- a) To measure the quantity of work done
  - b) To understand the timelines
  - c) To assess the quality of work done
  - d) To understand the sequence of work

**CON/N9001: Work according to personal health, safety and environment protocol at construction site.**

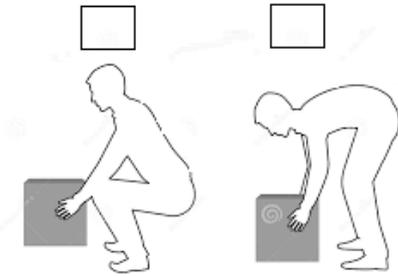
41. What should you do in case the fire alarm start ringing? **(2 marks)**
- a) Keep working
  - b) Immediately stop the work and evacuate
  - c) Create a panic situation
  - d) None
42. Identify the unsafe working practice amongst the following? **(3 marks)**
- a) Welding without a mask
  - b) Walking bare feet at construction site
  - c) Using wires with no insulation
  - d) All of these
43. Identify the sign shown below: **(2 marks)**



- a) Smoke zone
- b) Fire exit

- c) No parking
- d) No smoking

44. Which of the following is the correct body posture while lifting of heavy load? **(2 marks)**



45. Identify the safety sign shown below: **(3 marks)**



- a) Safe assembly area
- b) Fire exit
- c) Meeting area
- d) Cafeteria

46. What are the three basic requirements of a fire? **(3 marks)**

- a) Fuel, heat and hydrogen
- b) Fuel, heat and Sulphur
- c) Fuel, heat and nitrogen
- d) Fuel, heat and oxygen

47. Identify the item from the image given below. **(2 marks)**



- a) Half body harness
- b) Half body apron
- c) Full body harness
- d) Full body apron

48. Which of the following basic emergency equipment used while working in a confined space? **(3 Marks)**

- a) Breathing apparatus
- b) Emergency lamp
- c) Sun safety glass

d) Fire extinguisher