1. Identify the following from given sketch and write in the given boxes. (5 X 4 = 20)
   i. Stepped Footing
   ii. Pile Foundation
   iii. Pad Footing
   iv. Sloped Footing

2. Which of the following method is used to check right angle of a layout? (5)
   i. With Measurement Tape
   ii. 3-4-5 Method
   iii. With Line Dori
   iv. None of the above

3. Which among the following methods is used for ensuring correctness of base? (5)
   i. Dipping
   ii. Ramming
   iii. Backfilling
   iv. None of the above

4. Which of the following method is used to check verticality of a brickwork? (5)
   i. With Measurement Tape
   ii. 3-4-5 Method
   iii. With Line Dori
   iv. With Plumb Bob
5. **Which of the following defines 1:3 mortar ratio?** (5)
   i. 1-part cement + 3-part sand
   ii. 3-part cement + 1-part sand
   iii. All of the above
   iv. None of the above

6. **Identify type of bond from given sketch?** (5)
   i. Header Bond
   ii. stretcher bond
   iii. English bond
   iv. Flemish bond

7. **What kind of surface/platform is suitable for mixing cement mortar?** (5)
   i. Grass surface
   ii. Waterproof hard surface
   iii. Sand bed
   iv. Rock bed

8. **What is the function of lintel?** (5)
   i. To provide support to foundation
   ii. To provide architectural looks
   iii. To provide support to base of doors & windows
   iv. To provide support to the above wall of openings

9. **What are the methods by which you can check for quality of brick on site?** (5)
   i. By dropping from 1-meter height (Check for braking)
   ii. By striking two bricks together (Check for metallic sound)
   iii. Texture of bricks (check for presence of free water-soluble salts)
   iv. All of the above

**CON/N3603: Build structures using random rubble masonry**

10. **Identify the stone.** (5)
    i. Bond Stone
    ii. Brick
    iii. Gravel
    iv. Uncoursed stone
11. In RR masonry, raking is done ______________. (5)
   i. To identify the location of joints
   ii. To seal the joints
   iii. To repair cracks in the wall
   iv. When pointing or plastering is required to be done

12. What are hearting stones? (5)
    i. Hammer dressed stones
    ii. Chips or spalls of stones used for filling the voids between adjacent stones
    iii. Heart shape stones
    iv. Stones more than 150mm in size

13. Identify given tool. (5)
    i. Measurement Tape
    ii. Bolster Chisel
    iii. Line Dori
    iv. None of the above

14. Precaution to be taken during RR masonry is______________. (5)
    i. To provide bond stones at regular interval
    ii. Pointing should be done with rich mortar.
    iii. Continuous vertical joints should be avoided.
    iv. All of the above

15. Which curing method is most suitable of curing of RRM? (5)
    i. By wet Hassen clothes
    ii. By ponding
    iii. By sprinkling water
    iv. None of the above is suitable

16. Which among the following will lead to a more durable and higher strength concrete? (5)
    i. High water-cement ratio
    ii. Low water-cement ratio
    iii. All of the above
    iv. None of the above
17. Why slope is provided in IPS floor? (5)
   i. To make it good looking
   ii. For curing
   iii. For water drainage
   iv. None of the above

18. Write correct sequence of the following steps of IPS in the given boxes. (5)
   i. Concreting
   ii. Glass/ PVC strip fixing of panels
   iii. Button Marking
   iv. Level Transfer

19. Which of the following is a preparatory task before IPS flooring? (5)
   i. Level Transfer
   ii. Material Inspection
   iii. Removal of loose materials from the surface
   iv. Tools inspection
   v. All of the above

20. It is advisable to pour concrete from lower height, Why? (5)
   i. It gives more strength
   ii. It helps in less consumption of concrete
   iii. It avoids segregation of aggregate
   iv. None of the above

21. What do you understand by segregation in concrete? (5)
   i. Segregation of aggregates from mortar
   ii. It is green coloured
   iii. It does not contain any aggregate
   iv. None of the above

22. Identify tool from given sketch/photo? (5)
   i. Hack Saw
   ii. Bar Cutting Machine
   iii. Power Saw
   iv. Bar Bending Machine
23. **Find the cut length of bar (10mm Φ) given in sketch?** (5)
   - i. 1200mm
   - ii. 1240mm
   - iii. 1160mm
   - iv. None of the above

24. **What deduction is done at 90° bend in reinforcement bar?** (5)
   - i. 2X Φ of bar
   - ii. 1X Φ of bar
   - iii. 3X Φ of bar
   - iv. No deduction

25. **Which of the following tie is recommended for lapping of rebar?** (5)
   - i. Crown Tie
   - ii. Slash Tie
   - iii. Hair Pin Tie
   - iv. Splice Tie

26. **Why reinforcement bars are provided in Concrete?** (5)
   - i. To provide ductility
   - ii. To provide more strength
   - iii. To provide tensile strength to concrete
   - iv. All of the above

27. **Identify the type of stirrup from given fig?** (5)
   - i. 2 legged
   - ii. 4 legged
   - iii. 6 legged
   - iv. 8 legged

28. **What is the function of releasing agent in shuttering?** (5)
   - i. For easy removal the form work
   - ii. To provide more strength
   - iii. To keep bond between shutter and concrete
   - iv. All of the above

**CON/N3606 Carry out shuttering works for RCC structures in rural construction**
29. Slab shuttering is removed after _________ days. (5)
   i. 2 days
   ii. 5 days
   iii. 7 days
   iv. 14 days

30. What precautions need to be taken during dismantling shuttering? (5)
   i. Proper Barication
   ii. Lookout
   iii. Personnel Protective Equipment
   iv. All of the above

31. What type of ground is required for scaffolding erection? (5)
   i. Flat Ground Surface
   ii. Undulated Ground
   iii. Grass Surface
   iv. All of the above

32. _________ is provided for more stable scaffold. (5)
   i. Ramp
   ii. Ladder
   iii. Cross Bracing
   iv. None of the above

33. What are the tools required for to check alignment & plumb of shuttering? (5)
   i. Plumb bob
   ii. Line dori
   iii. Measuring Tape
   iv. All of the above

34. What is the importance of concrete cover for reinforcement? (5)
   i. Protects rebar from corrosion
   ii. Provide resistant against fire
   iii. Both
   iv. None of the above

CON/N3607: Carry out manual concreting in rural construction
35. **What are the factors which may affect concrete strength?** (5)
   i. Proper Vibration
   ii. Water Cement Ratio
   iii. Slump
   iv. All of the above

36. **Workability of concrete is tested by ________.** (5)
   i. Water content test
   ii. Compression test
   iii. Slump test
   iv. Penetration test

37. **Identify the process from the given photo.** (5)
   i. Concreting
   ii. Shuttering
   iii. Erection of scaffold
   iv. Grove cutting

38. **What are the causes of honeycombing?** (5)
   i. Inadequate vibrating
   ii. Low workability of concrete
   iii. Inadequate gap filling causing leakage of slurry
   iv. All of the above

39. **After placement of concrete, what plays important role in gaining the strength to concrete?** (5)
   i. Adequate concreting
   ii. Removal of shuttering within an hour
   iii. Removal of shuttering after one month
   iv. None of the above

40. **What is the minimum safe distance between potable water sources and soak pit?** (5)
   i. 3 meters
   ii. 30 meters
   iii. 300 meters
   iv. 3000 meters
41. Which among the following is used to maintain water level of toilet pan? (5)
   i. S trap
   ii. P trap
   iii. Both
   iv. None of the above

42. Gradients for floor are important for which among the following? (5)
   i. Water accumulation
   ii. Water drainage
   iii. Water collection
   iv. All of the above

43. What are the common problems that might arise in the sanitation system? (5)
   i. Oil and grease get accumulated
   ii. Non-biodegradable items clog the tank
   iii. Roots of tree may clog the pipes
   iv. All of the above

44. Which of the following method can be used for testing of pipes for any leakage? (5)
   i. By water pressure testing
   ii. By smoke testing
   iii. Both
   iv. None of the above

45. What of the following is the advantage of double pit and septic tank system? (5)
   i. It does not contaminate ground water system
   ii. Eliminates mosquito and fly breeding.
   iii. Maintenance is easy
   iv. All of the above