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**Instructions:**
- Please read the following instructions carefully before writing your answer:
- Before you proceed to mark your response in OMR answer sheet, you have to fill in particulars carefully in the OMR answer sheet as per your admit card. The OMR sheet cannot be evaluated if incorrect/incomplete details are filled OMR sheet without Roll Number, Post Code and Question Booklet Series will not be evaluated under any circumstances.
- Immediately on breaking of the seal, the candidate must check that the Question Booklet has 100 questions with multiple choice questions. If there is any discrepancy, it should be reported to the Invigilator immediately for change of booklet. No sheet from the question paper shall be detached.
- The candidate shall ensure whether the Paper Code printed on this Question Booklet matches with the Paper Code printed on the admit card.
- Candidate must give his Name, Roll Number and sign at the appropriate places marked for this purpose on the front page of this Question Booklet.
- All questions are compulsory. Each question carries 1 mark. There is no negative marking for wrong answer.
- Use only blue or black ball point pen. Use of pencil or gel pen is not allowed.
- There are four answer options (A), (B), (C), (D) given against each question, out of which only one is correct. Mark your answer by filling OVAL bubble on the OMR answer sheet provided to the candidate.
- Darken completely only one OVAL bubble which you think is correct as shown in the figure.

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- OMR answer sheet will be processed by electronic means. Hence, invalidation of OMR answer sheet resulting due to folding or putting stray marks on it or any damage to the answer sheet as well as incomplete/incorrect filling of answer sheet, will be the sole responsibility of the candidate.
- If candidate gives more than one answer, it will be treated as wrong answer even if one of given answer happens to be correct.
- After completion of examination, you have to hand over your OMR answer sheet and second copy of admit card (in case of PH candidates, copy of scribe admit card also) to the invigilator. Candidate shall be allowed to take the question paper booklet along with him. Please retain first copy of admit card along with you.
- Use of any electronic device like mobile, calculator or any electronic gadget is strictly prohibited. If candidate is found in possession of any such devices, his candidature will be cancelled.

**In case of any dispute, English version will prevail.**
1. How does light normally travel?
   A) In concentric circles   B) In a straight line
   C) Always towards a dark area   D) In a curved line

2. First Country to undergo industrial revolution:
   A) France   B) Britain
   C) Germany   D) USA

3. A solar water heater cannot be used to get hot water on
   A) A sunny day   B) A cloudy day
   C) A hot day   D) A windy day

4. In India, the first cotton mill was set up in
   A) Madras   B) Bombay
   C) Kanpur   D) Surat

5. Regur soil is the other name of
   A) Black soil   B) Alluvial soil
   C) Arid soil   D) Laterite soil

6. The different group of stars is known as
   A) Constellations   B) Celestial bodies
   C) Asteroids   D) Comet

7. Which country has a two-party system?
   A) India   B) Sri Lanka
   C) United Kingdom   D) Nepal

8. Which of the following is a macro nutrient?
   A) Mn   B) Mg
   C) Cu   D) Zn

9. The process of evaporation causes
   A) Cooling   B) Heating
   C) Dryness   D) None of these

10. Place directly above focus on Earth’s surface is known as
    A) Strike   B) Comma
    C) Epicenter   D) Origin

11. HCF of 84 & 270 is
    A) 8   B) 6
    C) 4   D) 2

12. The sum of first five multiples of 3 is:
    A) 45   B) 65
    C) 75   D) 90

13. 7:12 is equivalent to:
    A) 28:40   B) 42:71
    C) 72:42   D) 42:72

14. Find the simple interest on the Rs. 2000 at 25/4% per annum for the period from 4th Feb 2005 to 18th April 2005
    A) Rs. 35   B) Rs. 30
    C) Rs. 25   D) Rs. 40

15. The average of 20 numbers is Zero. Of them, at the most, how many may be greater than zero?
    A) 0   B) 1
    C) 10   D) 19

16. An athlete runs 200 meters in 24 seconds. His speed is?
    A) 10 km/hr   B) 17 km/hr
    C) 27 km/hr   D) 30 km/hr
17. Every rational number is
   A) A natural number  B) An integer  C) A real number  D) A whole number

18. What decimal of an hour is a second?
   A) .0025  B) .0256  C) .00027  D) .000126

19. A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had how many?
   A) 588 apples  B) 600 apples  C) 672 apples  D) 700 apples

20. A does a work in 10 days and B does the same work in 15 days. In how many days they will do the same work together?
   A) 5 days  B) 6 days  C) 7 days  D) 8 days

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**DOMAIN KNOWLEDGE**

21. Which wood is difficult to machine?
   A) Freshly failed wood  B) Old and used wood  C) Kiln dried wood  D) Seasoned wood

22. Consumable patterns are made of
   A) Wax  B) polystyrene  C) Plaster of Paris  D) Any of these

23. The disadvantage in using wood as the material for pattern making is
   A) Its low cost
   B) Its different strength along the grains and across the grains
   C) It gets warped when not stored properly
   D) It is lighter than the metal to be cast

24. The drawback with metallic pattern is
   A) excessive weight  B) expensive  C) difficult to shape  D) all of the above

25. In case of consumable patterns
   A) labour charges are reduced
   B) core is not required
   C) moulds are not split
   D) all of the above

26. Wood used for pattern making has knots. This is likely to affect
   A) warping of the piece
   B) machinability of pattern
   C) moisture content of wood
   D) all of the above

27. There is no need for the withdrawal of pattern from the mould in case of
   A) wax patterns  B) hollow patterns  C) consumable patterns  D) patterns with core

28. The rammer used for ramming the pockets and corners of the mould is
   A) Peen or Peg  B) Flat  C) Floor  D) Pneumatic

29. Pneumatic rammer is operated by
   A) Hand  B) Leg  C) Compressed Air  D) Hydraulic Pressure
30. Which of the following tool is used for removing the foreign materials from the moulding sand?
   A) Shovel  B) Riddle  C) Cleaner  D) Bellows

31. To remove or cut excess sand from the mould ______ is used.
   A) Strike off Bar  B) Trowel  C) Cleaner  D) Smoother

32. Vent wire is used for making ______ in the mould or core.
   A) Sprue  B) Riser  C) Flow off  D) Vents

33. Which is used for repairing and finishing the flat surface of the mould?
   A) Strike off Bar  B) Trowel  C) Bellow  D) Vent Wire

34. Lifter is used to lift _____ from the mould cavity.
   A) Loose Sand  B) Core  C) Unwanted Metal  D) None of these

35. To withdraw big patterns from the mould we use ______.
   A) Draw Spike  B) Draw Pin  C) Draw Screw  D) Lifting Straps

36. ______ is used for applying water to the mould around the edge of the pattern.
   A) Water Sprinkler  B) Draw Spike  C) Vent Wire  D) Swab

37. To loosen the pattern in the mould we use ________.
   A) Hammer  B) Rammer  C) Mallet  D) Spirit Level

38. To blow loose sand particles from the pattern and mould manually ______ is used.
   A) Bellows  B) Blower  C) Brush  D) Swab

39. ______ is used for dusting parting compound and dressing materials.
   A) Riddle  B) Shovel  C) Dust Bag  D) Rapper

40. Which of the following is used to dry the moulds and cores surface?
   A) Blower  B) Blow Lamp  C) Bellows  D) All of these

41. Providing small holes in sand mould is done by ________.
   A) Vent wire  B) Sprue pin  C) Guide pin  D) Dowel pin

42. ______ is used to reinforce sand in the top portion of the moulding box.
   A) Vent wire  B) Sprue pin  C) Gaggers  D) Clamps

43. The another name of flask is ________.
   A) Moulding box  B) Core box  C) First Aid box  D) Tool box

44. Moulding box and pattern are placed on a wooden board while moulding is called ________.
   A) Moulding Board  B) Bottom Board  C) Cover Board  D) None of these

45. Which of the following is similar to Trowel?
   A) Smoother  B) Cleaner  C) Leveller  D) Slicks

46. Gaggers are also called Lifter in ______
   A) India  B) England  C) Britain  D) America
47. Which is used to sweep away the parting sand from a mould joint?
   A) Cleaner   B) Trowel   C) Soft Brush   D) Bellows

48. To prepare the Sprue hole (cavity) a taper pin is used which is called _______.
   A) Sprue pin   B) Thumb pin   C) Guide pin   D) Dowel pin

49. _______ is used for packing the moulding sand around the pattern in the moulding box.
   A) Hammer   B) Rammer   C) Mallet   D) Shovel

50. Strike off bar provides a _______.
   A) Level surface   B) Smooth surface   C) Fine surface   D) All of these

51. Vents are made in mould or core for easy escape of unwanted _______.
   A) Sand   B) Metal   C) Gas   D) Water

52. A sharp pointed metal rod is used to lift the small patterns from the mould is _______.
   A) Draw Spike   B) Draw Pin   C) Draw Screw   D) Lifting Straps

53. Gaggers are used to increase _______ of the mould.
   A) Hardness   B) Strength   C) Surface Finish   D) None of these

54. Top part of the moulding box is called _______.
   A) Cope   B) Drag   C) Cheek   D) None of these

55. Mallets are made of _______.
   A) Mild Steel   B) Wood   C) Cast Iron   D) Wax

56. Moulding box is made of _______.
   A) Plastic   B) Plaster of Paris   C) Wood or Metal   D) Wax

57. _______ is used for moistening the mould surrounding.
   A) Water Sprinkler   B) Draw Spike   C) Vent Wire   D) Swab

58. Which one is the Moulding tool?
   A) Chisel   B) File   C) Trowel   D) Hammer

59. Which is used for spraying paint or core or mould surfaces?
   A) Brushes   B) Sprinkler   C) Spray gun   D) None of these

60. Water sprinkler is used for moistening the sand during _______.
   A) Tempering   B) Mixing   C) Moulding   D) Melting

61. _______ are used for retaining complicated shape of mould.
   A) Sprigs   B) Nails   C) Gaggers   D) All of these

62. A long flat metal plate fitted with an offset handle is called _______.
   A) Slick   B) Lifter   C) Riddle   D) Trowel

63. Locating pin (Guide pin) prevents mismatch of the _______.
   A) Mould   B) Core   C) Chaplet   D) Chill
64. Dowel pins are used to prevent mismatch of the _______.
   A) Split Core Box    B) Split pattern    C) Split Die    D) All of these

65. To ensure that the sand bed or moulding machine table is horizontal a Molder use _______.
   A) Steel rule    B) Spirit level    C) Straight edge    D) Rapper

66. Mallet is a striking tool and its head is made of _______.
   A) H.S.S.    B) Cast Iron    C) Wood    D) H.C.S.

67. Draw Screw and Rapping plate facilitate shaking and lifting _______ patterns from the mould.
   A) Small    B) Very Small    C) Very Heavy    D) Large

68. The venting in moulds is done to avoid gas trap (entrapment) in the _______.
   A) Pattern    B) Mould    C) Casting    D) Core

69. Venting in moulds is provided to _______ the gas.
   A) Hold    B) Release    C) Entrap    D) None of these

70. Providing small holes in the sand mould is done by _______.
   A) Draw spike    B) Drill bit    C) Poker    D) Vent wire

71. Floor Rammer is used for ramming large moulds for _______ moulding.
   A) Floor    B) Bench    C) Machine    D) All of these

72. Upper (Top) portion of the mould base (Moulding Box) is called _______.
   A) Cheek    B) Drag    C) Cope    D) None of these

73. Middle part of three piece molding box is termed as _______.
   A) Cheek    B) Drag    C) Cope    D) None of these

74. Riddle is used for _______.
   A) Removing foreign materials    B) Tempering the Sand    C) Repairing the mould    D) None of these

75. Lifter is _______.
   A) Used to scoop sand deep in the mould    B) A round sieve    C) A pointed wire    D) None of these

76. Slick is _______.
   A) Used for smoothing the surface of mould    B) A round sieve    C) Used for making vents    D) None of these

77. Trowel is _______.
   A) A long flat metal plate fitted with an offset handle    B) A round sieve    C) A pointed wire    D) None of these

78. Which is used for moistening the sand around the edge before removing pattern?
   A) Slick    B) Swab    C) Lifter    D) Riddle

79. Which is used for repairing and finishing the mould?
   A) Slick    B) Swab    C) Lifter    D) Riddle
80. _____ is used for smoothing sand and repairing slightly damaged moulds.
   A) Slick  B) Swab  C) Trowel  D) Riddle

81. _____ is used for reinforcement of sand in the top part of the moulding box.
   A) Gagger  B) Swab  C) Lifter  D) Slick

82. _____ is used to compact the sand in moulds.
   A) Trowel  B) Gagger  C) Rammer  D) Swab

83. _____ is used to withdraw pattern from the mould during finishing.
   A) Trowels  B) Draw spike  C) Lifter  D) Swab

84. _____ are used to reinforce the sand in moulds.
   A) Trowel  B) Lifters  C) Guide pins  D) Gaggers

85. Swab is used for
   A) Applying water to the edge of the pattern  B) Shaking the pattern
   C) Repairing the mould  D) None of these

86. Which of the following facilitate shaking and lifting large pattern from the mould?
   A) Trowel  B) Swab  C) Bellows  D) Rapping plate

87. Pneumatic tools find application in foundries normally for
   A) Fin removal  B) Surface finish  C) Filling of cavities  D) None of above

88. Venting in moulds is done to carry off the _____.
   A) Gases  B) Metals  C) Sands  D) None of above

89. Intermediate moulding flask section is called _____.
   A) Cheek  B) Drag  C) Cope  D) None of these

90. Identify the tool used in pattern making?
   A) Lifter  B) Shovel  C) Chisel  D) All of these

91. In hand moulding processes all the operations are performed by _____.
   A) Manually by hand  B) Moulding machine  C) Sand slinger  D) Core

92. For ramming the sand in the pockets and corners of the mould _____ rammer is used.
   A) Peen or Peg  B) Flat  C) Floor  D) Pneumatic

93. _____ is used for packing the moulding sand around the pattern.
   A) Lifter  B) Shovel  C) Rammer  D) Trowel

94. _____ is used to remove or cut surplus sand from the mould after ramming.
   A) Strike off Bar  B) Trowel  C) Cleaner  D) Smoother

95. Polystyrene is generally available in the form of
   A) plates  B) cylindrical bars  C) square sections  D) trapezoidal moulds
96. Plaster patterns and core boxes are made of
   A) Plaster of Paris   B) Gypsum cement   C) Bone china clay   D) White powder

97. Phenolic thermo-setting plastics are finding application in pattern making because
   A) they do not absorb moisture   B) they are strong
   C) they are resistant to wear   D) they have all above qualities

98. Wax patterns are used in
   A) non-ferrous castings   B) investment casting process
   C) machine moulding process   D) all of the above

99. If an old casting is to be used as a pattern, to account for various allowances
   A) casting is shaken while withdrawing from mould
   B) the castings are cleaned and made smooth
   C) the surfaces are lagged with thin strips of wood or leater
   D) to provide draw screws, holes can be drilled and tapped in the castings

100. When wooden patterns with metallic coating are to be used, the metal sprayed on wooden pattern could be
     A) bismuth   B) zinc   C) aluminium   D) any of the above