A

Series **A**

CODE : 21

Write here Roll Number and Answer Sheet No.

Question Booklet Sl. No.

Roll No.

Answer Sheet No.

Duration : 1 Hour

Total Marks : 100

Declaration by Invigilator :
I Certify that I have checked that the Roll Number and the Answer Sheet Number written by the Candidate on the question paper and the OMR Sheet are correct and the Answer Sheet Number matches the Question Booklet Number exactly.

Signature of the Invigilator with Name

Declaration by Candidate :
I undertake not to employ any unfair means in this exam. I have checked the Question Booklet Number and the Answer Sheet Number and both are identical and have been correctly entered by me wherever indicated.

Signature of the Candidate with Name

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS TO CANDIDATES

1. The Roll No. is a **7** digit No., the candidate needs to circle the Roll No. in the Answer Sheet.
2. The appropriate Circle should be shaded for Roll No. This should be done carefully because only the shaded circles are scanned.
3. Valuation of Answer Sheet will be done on the computer. Candidate should not make any stray marks on the Answer Sheet, tamper with or mutilate it. Otherwise it will not be evaluated.
4. Please check all the pages of the Booklet carefully. In case of any defect, please ask the Invigilator for replacement of the Booklet.
5. You must not tear off or remove any sheet from this Booklet. The Answer Sheet must be handed over to the Invigilator before you leave the Examination Hall.
6. All questions are compulsory and each Question carries **2** marks.
7. **The paper carries negative marking. For each wrong answer 0.50 mark will be deducted.**
8. This Booklet contains 50 questions.
9. Use of Calculator/Palmtop/Laptop/Other Digital Instrument/Mobile/Cell Phone/Pager is **not** allowed.
10. Candidates found guilty of misconduct/using unfair means in the Examination Hall will be liable for appropriate penal/legal action.
11. **No Rough Work is to be done on the Answer Sheet and only single OMR Answer Sheet will be provided.**
12. This booklet contains **12** pages.
13. **Directions** : Each question or incomplete statement is followed by four alternative suggested answers or completions. In each case, you are required to select the one that correctly answers the question or completes the statement and blacken (●) appropriate circle a, b, c or d by Blue / Black Ball-Point Pen provided by the board against the question concerned in the Answer Sheet.
14. Mark your answer by shading the appropriate circle against each question. The circle should be shaded completely without leaving any space. The correct method of shading is given below.

Wrong Method	Wrong Method	Wrong Method	Correct Method
○ ⊗ ○ ○	○ ⊘ ○ ○	○ ◉ ○ ○	○ ● ○ ○

The Candidate must mark his/her response after careful consideration, as it is not possible to change the response once it is marked.

15. There is only one correct answer to each question. You should blacken (●) the circle of the appropriate column, viz., a, b, c or d. If you blacken (●) more than one circle against any one question, the answer will be treated as wrong.
16. Use the space for rough work given at the beginning of the Question Booklet only and not on the Answer Sheet.
17. **You are NOT required to mark your answers in this Booklet. All answers must be indicated in the Answer Sheet only.**

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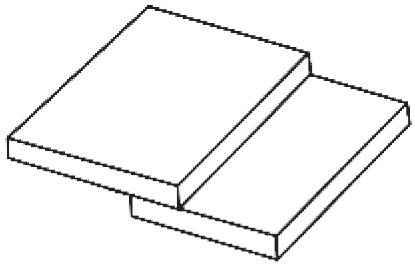
DO NOT WRITE HERE

SPACE OR ROUGH WORK

1. Name the type of welding joint shown in below figure.



(a) Butt joint
(b) Lap joint
(c) Corner joint
(d) Tee joint

2. In welding, flux is used as to
(a) issolve and remove the metal oxides
(b) Preheat job material
(c) Binding agent
(d) Coolant

3. In welding operation, flux reacts with metallic oxides to produce
(a) Slag
(b) Foam
(c) Gas fumes
(d) Metal oxide

4. The temperature in electric arc welding is as high as
(a) 8500°C (b) 3800°C (c) 5500°C (d) 1200°C

5. The colour of the hose pipe used for acetylene gas is
(a) Red
(b) Black
(c) Blue
(d) Orange

6. Porosity can be avoided by
(a) Cleaning the work piece surface of all oil, grease and paint
(b) Ensuring that electrode coating is free from dampness
(c) By drying electrodes in an oven before use
(d) ll the above

7. Electric resistance welding process is a _____ welding process.
(a) Fusion (b) Pressure (c) Diffusion (d) Laser

8. Joining two pieces by placing them between two electrodes and passing a heavy current through them for a very short duration is called
   (a) Spot welding (b) Butt welding
   (c) Seam welding (d) Lap welding

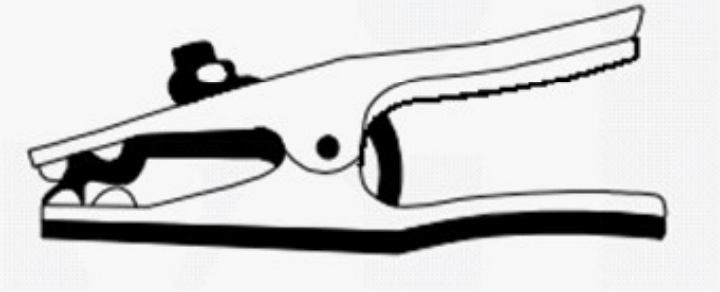
9. Welding two pieces of metal together, end to end, is called _____ welding.
   (a) Lap (b) Seam (c) Butt (d) Spot

10. Arc is deflecting from its intended path making the job of welding difficult due to shifting of arc is called
   (a) Arc blow (b) Arc deviation
   (c) Heat affected zone (d) Arc weld

11. The process for joining two similar or dissimilar metals by fusion is
   (a) Welding (b) Soldering
   (c) Brazing (d) None of these

12. In gas welding, standard colour for oxygen hose pipe is
   (a) lack (b) lue (c) Green (d) Red

13. Name the welding machine part shown in below figure.



   (a) Welding torch (b) Pliers
   (c) Earth clamp (d) older

14. An example for non-consumable electrode is
   (a) Mild steel (b) Pure tungsten
   (c) Stainless steel (d) All of these

15. In Tungusten Inert Gas (TIG) welding, shielding gas generally used is
   (a) Oxygen gas (b) Argon gas
   (c) cetylene gas (d) Ethane gas

16. Which type of power source supply is more suitable for Tungusten Inert Gas (TIG) welding of Copper, Copper alloys, nickel ?
(a) AC supply
(b) DC supply
(c) DC reverse polarity
(d) Both AC and DC supply

17. In Electron Beam Welding (EBW), the source for a stream of electron is
(a) Hot filament of tungsten
(b) Electrode
(c) Tungsten
(d) Cathode tube

18. s the vacuum increases, the scattering effect of the electron beam will
(a) Increase
(b) Decrease
(c) Remains constant
(d) None of these

19. The region of the base metal which is affected by metallurgical change due to the welding heat is called as
(a) Heat affected zone
(b) Temperature zone
(c) Heat diffusion zone
(d) Weld temperature zone

20. The welding which is popular in automobile industry is
(a) Resistance welding
(b) Gas welding
(c) Metal arc welding
(d) Tungusten Inert Gas (TIG) welding

21. Main application of Submerged Arc welding is in
(a) Fabrication work
(b) Ship building
(c) Automobile industry
(d) Joining rails

22. One of the reason for lack of penetration of filler metal in welding process is
(a) Incorrect welding technique
(b) Inadequate de-slagging
(c) Incorrect edge penetration
d) All the above

23. Solder is an alloy of
(a) Lead and Zinc
(b) Lead and Tin
(c) Tin and Zinc
(d) Lead and Copper

24. Which is the most active solder flux ?
(a) Inorganic fluxes
(b) Rosin fluxes
(c) Organic fluxes
(d) Mild fluxes

25. Choose the correct safety apparel taken during welding operation.
    (a) Wears blue coloured goggles to protect his eyes
    (b) Wears a leather or canvas apron to protect his person
    (c) Wears leather gloves to protect his hands
    (d) ll the above

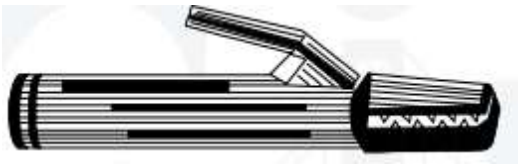
26. The main application of thermit welding is in
    (a) Rail welding
    (b) Underwater welding
    (c) Aircraft welding
    (d) Ship building

27. A process in which work piece is melted and joined by narrow beam of intense Monochromatic Light is
    (a) Laser welding
    (b) Gas Metal Arc (GMA) welding
    (c) Tungusten Inert Gas (TIG) welding
    (d) Seam welding

28. Air-acetylene welding is a _____ type of welding process.
    (a) Oxygen-fuel gas welding (b) Resistance welding
    (c) rc welding (d) Thermit welding

29. In oxy-acetylene welding, the flame in which acetylene and oxygen in equal proportions is
    (a) Neutral welding flame (b) Oxidizing welding flame
    (c) Carburizing welding flame (d) Reducing welding flame

30. Name the welding part shown in the figure below.

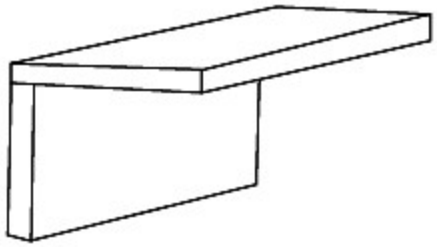


    (a) Earth clamp (b) Electrode holder
    (c) Welding torch (d) None of these

31. Non-consumable welding electrodes have _____ melting point.
(a) igh (b) Optimum (c) Low (d) Moderate

32. The temperature produced in the thermit welding reaction is around
(a) 3000°C b) 5000°C (c) 6000°C d) 1000°C

33. Name the type of welding joint shown in below figure.

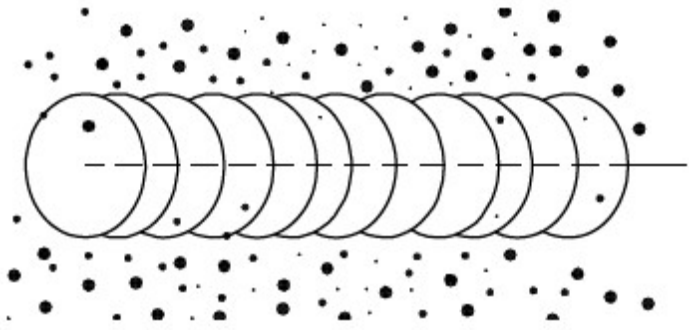


(a) Lap joint (b) Corner joint (c) Butt joint (d) Flange joint

34. A common example of _____ can be seen in joining electrical wires of P.C.B. circuits.
(a) Welding (b) razing (c) Soldering (d) None of these

35. An example for brazing filler material is
(a) Copper (b) Stainless steel
(c) Mild steel (d) Carbide

36. Name the type of welding defect shown in below figure.



(a) Excessive spatter (b) Lack of penetration
(c) Cracking (d) Incomplete fusion

37. One of the possible causes for excessive spatter is

(a) Wire feed speed too high
(b) Workpiece dirty
(c) Voltage too high
(d) All the above

38. Weld metal melting completely through base metal resulting in holes where no metal remains is

(a) Porosity
(b) Improper weld
(c) Lack of penetration
(d) Burn through

39. ontraction of weld metal during welding that forces base metal to move is

(a) Waviness of bead
(b) Burn through
(c) istortion
(d) Weld fusion

40. eating a joint to be welded before or during welding to a certain temperature is

(a) Preheating
(b) Quenching
(c) Tempering
(d) Post heating

41. n example for flux is

(a) Carbon
(b) Graphite
(c) Borax
(d) rgon

42. Passing high current through the metal pieces to be joined together and the heat is produced due to the resistance in the electric circuit is called as

(a) Electric resistance welding
(b) Electric fusion welding
(c) Electric arc welding
(d) Electric beam welding

43. The materials with high castability usually have _____weldability.

(a) High
(b) Optimum
(c) Low
(d) ood

44. An example for solder flux is

(a) inc
(b) Zinc Chloride
(c) Copper
(d) Calcium Chloride

45. Excessive heat input in welding operation will cause

(a) Burn through
(b) Weld porosity
(c) Weld fusion
(d) Crack through

46. In Gas Metal Arc Welding (GMAW) to control supply of wire to welding gun _____ is used.

(a) Wire coil
(b) Wire gun
(c) Wire feeder
(d) Flux

47. n example for radiant energy welding process is

(a) Arc welding
(b) Electron beam welding
(c) Gas welding
(d) Tungusten Inert Gas (TIG) welding

48. oose the correct method to reduce arc blow.

(a) Reduce current, as practicable
(b) Use as short an arc as possible
(c) Switch over to A.C. welding
(d) All the above

49. Small cavities or holes resulting from gas pockets in weld metal is

(a) Porosity
(b) Incomplete fusion
(c) avity
(d) Excessive penetration

50. To prevent hard and brittle spots from forming in the weldment _____ is done.

(a) Preheating
(b) Quenching
(c) Post heating
(d) Annealing