

BABA FARID UNIVERSITY OF HEALTH SCIENCES, FARIDKOT

Gas Plant Tech. / Hospital Gas Tech.
(under Baba Farid University of Health Sciences, Faridkot)

QUESTION BOOKLET NO

IMPRESSION OF THE CANDIDATE

OMR ANSWER SHEET NO

ROLL NO:

FULL SIGNATURE OF THE CANDIDATE

Co-ordinator stamp

FULL SIGNATURE OF INVIGILATOR

Time Allowed: 1:00 Hour (12:00 Noon to 01:00 PM)

Maximum Marks: 50

1. Use **BLACK FINE TIP BALL PEN** only. Use of pencil is not allowed.
2. Write your Roll number on the OMR answer-sheet and also on the question-booklet only in the space provided for the purpose and at no other place in the question booklets and Answer-sheet
3. Enter the Question Booklet Set and Number on the OMR Answer-sheet and also darken the corresponding bubbles with **BLACK FINE TIP BALL PEN**.
4. Do not put any marks anywhere in the Question booklet /on the OMR Answer-sheet.
5. **There are 50 objective type questions in all of 1 Mark each.** Before attempting the questions, check that the Question-booklet is complete. In case any question/part of question or page is missing, inform the Centre Superintendent within 5 minutes of the start of the examination. After that no claim will be entertained.
6. **Each question is followed by four alternative responses listed as A), B), C) and D) out of which only one is correct / most correct. In case, all the ovals are left blank, there will be deduction of marks @ 0.25 mark for each such unattempted question. Fifth oval 'E' (introduced for security purpose) is to be darkened in case you do not want to attempt the question to avoid negative marking.**
7. To open the question booklet, remove the seal gently when asked to do so. Handover the OMR Answer-sheet to the officer on duty on the completion of the time before you leave the examination hall.
8. **The candidates are permitted to carry his/her question booklet after completion of the examination but OMR Sheets are compulsory required to be deposited with the invigilator.**
9. A candidate who create disturbance of any kind or changes his/her seat or is found in possession of any paper possibility of any assistance to him/her or unfair means will be expelled from the examination by the Centre superintendent/Observer, whose decision shall be final. ("Expulsion" for this purpose would mean cancellation of the entire examination of the candidate).
10. **THE CANDIDATES ARE NOT PERMITTED TO CARRY ANY TELECOMMUNICATION EQUIPMENT SUCH AS WATCH, CELLULAR PHONE, WIRELESS SET, SCANNER ETC. INSIDE THE EXAMINATION HALL.**
11. For rough work, use only the blank space of the Question booklet.
12. The candidates will not be allowed to leave the examination hall during the examination.
13. Borrowing any material is not allowed.
14. The answer-sheet is designed for Computer evaluation. If the instructions are not followed properly, the candidate alone shall be responsible for the resultant loss.
15. Smoking/Refreshment shall not be allowed in the Entrance Test Centre/Hall.
16. Male candidates shall affix their Left Thumb Impression (LTI) while Female candidates shall affix Right Thumb Impression (RTI) at the prescribed place on the OMR answer sheet, Question Booklet and attendance sheet. The Centre superintendent shall also obtain and retain it for record.
17. The candidate must fill both the question booklet number and OMR answer sheet number on the attendance sheet.
18. No candidate shall be allowed to leave the centre before **01:00 PM**.

1. Colour code for Medical air 4 medical air bares:
 - A) Blue / black
 - B) White / blue
 - C) Red / white
 - D) Black / Black
2. Runouts from horizontal mains or branches shall be taken off _____ the centerline of the pipeline.
 - A) Above
 - B) Below
 - C) At
 - D) From
3. All medical gas alarm systems shall have a _____ audible indication for each condition monitored.
 - A) Adjustable
 - B) Cancelable
 - C) Optional
 - D) All of the above
4. Where shall pressure indicators be provided for medical gas systems?
 - A) On the main supply line
 - B) At the area alarm
 - C) Outlet/inlet side of the zone valve
 - D) All of the above
5. Vacuum pipelines are recognized with colour.
 - A) Red
 - B) Blue
 - C) Yellow
 - D) Black
6. What type of air is produced by medical air treatment systems?
 - A) Full of oxygen
 - B) Full of dust and moisture
 - C) Free of dust and moisture
 - D) Free of harmful gases
7. What is the primary function of a medical gas cylinder regulator?
 - A) To filter impurities from the gas
 - B) To maintain constant pressure in the cylinder
 - C) To measure gas consumption
 - D) To mix gases for specific applications
8. Which of the following medical gases is used for anesthetic purposes?
 - A) Nitrous oxide
 - B) Helium
 - C) Carbon dioxide
 - D) Nitrogen
9. Which of the following is a component of the medical gas pipeline system?
 - A) Piping Network
 - B) Valves
 - C) alarm System
 - D) All of above
10. What does a "vacuum system" in a hospital setting typically remove?
 - A) Excess oxygen
 - B) Air and other contaminants
 - C) Nitrous oxide
 - D) Excess carbon dioxide
11. What is the purpose of a medical gas manifold system?
 - A) To filter gases for purity
 - B) To store and distribute medical gases from multiple cylinders
 - C) To measure gas flow rates
 - D) To monitor oxygen concentration
12. The cylinders in manifold system has pressure.
 - A) Low
 - B) Moderate
 - C) High
 - D) No Pressure
13. Each station outlet/inlet for medical gas or vacuum shall be _____.
 - A) Interchangeable
 - B) Gas-specific
 - C) Threaded
 - D) Quick-coupler
14. What is the minimum number of compressors required in an instrument air system that employs a standby header?
 - A) 0
 - B) 1
 - C) 2
 - D) 3

15. _____ connectors shall connect the air compressors with their intake and outlet piping.
- Anti-vibration
 - Dielectric
 - Insulated
 - Flexible
16. Compressed gas cylinders are manufactured from which of the following?
- Copper or brass
 - Seamless steel
 - Seamless aluminum
 - Fiberglass
17. What key property of helium makes it useful as a therapeutic gas?
- Low solubility
 - Chemical inertness
 - Low cost
 - Low density
18. Which of the following are the types of alarm system?
- Master Alarm
 - Area Alarm
 - Department Alarm
 - Both A & B
19. Outlets of medical gas pipeline system supplies:
- Gases under pressure
 - Vacuume
 - It is odorless and colorless.
 - It is heavier than air.
20. Which of the following statements about CO₂ is FALSE?
- It does not support animal life.
 - It is a flammable gas.
 - It is odorless and colorless.
 - It is heavier than air.
21. CGA stands for:
- Controlled Gas Association
 - Chemical Gas Association
 - Compressed Gas Association
 - Compressed Gas Assessment
22. Which of the following is/are components of the Medical Gas Pipeline System?
- Central supply & terminal units at each use point
 - Central supply & piping extending to locations where the gas may be required
 - Central supply and terminal unit at each use point
 - All of the above
23. Liquid oxygen systems are _____.
- Economical for super-specialty hospitals with beds above 200 and weekly oxygen consumption exceeding 10,000 liters
 - Designed with sufficient safety to store cryogenic oxygen, transform it to gaseous form, and supply it at a pressure as per medical requirements
 - Both A and B
 - Neither A nor B
24. The manifold outlets in a ward usually have:
- Oxygen
 - Nitrous oxide
 - Vacuum
 - Only A and C
25. Which of the following are the types of valve of the medical gas pipeline system?
- Zone & service
 - Restricted & unrestricted
 - Controlled & free
 - Block & unblock
26. Oxygen therapy for the first time was started with encouraging results in the year:
- 1835
 - 1867
 - 1900
 - 1935
27. A liquid oxygen supply system in a hospital is usually considered economical if the expected usage exceeds:
- 50,000 gaseous liters of oxygen per week
 - 100,000 gaseous liters of oxygen per week
 - 150,000 gaseous liters of oxygen per week
 - 200,000 gaseous liters of oxygen per week

28. In the manifold room, the status of each oxygen cylinder is indicated on the front panel by the following light signals except:
- "In Use"
 - "Ready"
 - "Empty"
 - "Danger"
29. The manifold outlets in an ICU usually have:
- Oxygen
 - Vacuum
 - Nitrous oxide
 - Only A and B
30. Which of the following hazards shall be considered in the design, installation, testing, and maintenance of medical gas and vacuum piping systems?
- Contamination
 - Fire and smoke
 - Fire and explosions
 - All of the above
31. Liquid containers shall have additional product identification visible from all directions with a minimum of _____ inch-high letters, such as a 360-degree wrap-around tape for medical liquid containers.
- 1
 - 2
 - 3
 - 4
32. Which of the following systems shall not be permitted to be located in the same indoor enclosure?
- Bulk cryogenic liquid system
 - Manifolds for cryogenic liquid cylinders
 - Manifolds for gas cylinders with or without reserve
 - Instrument air standby header
33. Cylinders in use and in storage shall be prevented from reaching temperatures in excess of _____.
- 100°F
 - 130°F
 - 160°F
 - 190°F
34. All pressure relief valves shall be made of brass, bronze, or _____.
- Stainless steel
 - Carbon steel
 - Cast iron
 - Copper
35. Relief valves shall be vented to the _____, except compressed air systems having less than 3,000 cubic feet at STP.
- Floor
 - Sewer drain
 - Back into the system
 - Outside
36. Manifolds for gas cylinders without reserve shall consist of _____ equal headers; each with an average day's supply, but not fewer than _____ connections.
- Four – four
 - Three – three
 - Two – two
 - One – one
37. Manifolds for cryogenic liquid cylinders shall consist of _____ equal headers; each having a sufficient number of liquid containers for an average day's supply.
- 4 B) 3
 - 2 D) 1
38. Wall-mounted terminal units should be installed at approximately _____ mm above the finished floor level, especially where more than one gas service is used at any one location.
- 1000 MM
 - 1200 MM
 - 1500 MM
 - 2000 MM
39. Medical gas outlet points in OT/ICU/ward should be placed at least _____ cm from electrical components.
- 5
 - 20
 - 35
 - 50

40. Piped gas supply systems were first introduced in:
 A) 1867
 B) 1905
 C) 1935
 D) 1965
41. Bulk liquid oxygen tanks are economical, especially for tertiary-level, super-specialty hospitals with more than _____ beds.
 A) 50
 B) 100
 C) 200
 D) 300
42. Bulk liquid oxygen tanks are economical if the weekly consumption is likely to exceed _____.
 A) 10,00 liters
 B) 10,000 liters
 C) 150,000 liters
 D) 1,000,000 liters
43. Which of the following is NOT correct regarding manifolds?
 A) Temperatures in areas where cylinders are used or stored should not exceed 76°C
 B) Electrical devices must be located at or above 1520 mm (5 ft) above the finished floor
 C) Natural ventilation may be employed if the total volume is less than 84,950 L at STP
 D) Manifolds can store unlimited cylinders without adhering to ventilation requirements
44. Which of the following gases can be provided through a central pipeline system, except?
 A) Medical compressed air
 B) Vacuum/suction
 C) Excess anesthetic gas purging system
 D) Nitrogen
45. As per NFPA 99 standards, with respect to level 3 healthcare facilities, which is NOT correct?
 A) Interruptions in the piped systems do not place patients at risk of morbidity or mortality
 B) Only cylinders supply oxygen and nitrous oxide to the facility (except cryogenic liquid oxygen)
 C) The facility's total quantity of gases does not exceed 3,000 cubic feet
 D) It is limited to hospitals where mechanical ventilation is utilized frequently
46. The minimum size of pipes to be used for gas pipe line system should be:
 A) 6 mm
 B) 12 mm
 C) 15 mm
 D) 20 mm
47. Colour code of nitrous oxide cylinder is?
 A) Blue
 B) Black
 C) Brown
 D) Both A & B
48. Medical gas and medical compressed air pipeline installation should be designed for 5% pressure drop from the storage of production point to the point of delivery, to the back of the most remote terminal unit. The maximum permissible pressure drop on medical gas mixture system in the special circumstances is:
 A) 10
 B) 20
 C) 25
 D) 30

49. Bulk liquid oxygen tanks are economical
- A) Oxygen
 - B) Nitrogen
 - C) Carbon dioxide
 - D) Carbon monoxide

50. Which of the following are the sources for oxygen supply?
- A) Oxygen concentrators
 - B) Bulk tank
 - C) Cylinder
 - D) All of the above

ANSWER KEY**Recruitment test conducted on 23/01/2025 for post of Gas Plant Tech./
Hospital Gas Tech. under BFUHS, Faridkot**

1	D		26	B
2	A		27	B
3	B		28	D
4	D		29	D
5	C		30	C
6	C		31	B
7	B		32	A
8	A		33	B
9	D		34	A
10	B		35	D
11	B		36	C
12	C		37	C
13	B		38	D
14	B		39	B
15	D		40	C
16	C		41	C
17	D		42	B
18	D		43	A
19	A		44	D
20	B		45	D
21	C		46	D
22	D		47	A
23	D		48	C
24	D		49	C
25	D		50	A