



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Plant and Equipment Operator (Tunneling) - Jumbo Drilling Intermediate Trade Test Mock Written Test Paper

此文件關於機械設備操作工（隧道） - 鑽孔機工藝測試考題有需要索取此文件的中文版本，請致電 2100 9000 與香港建造業工藝測試中心聯絡。

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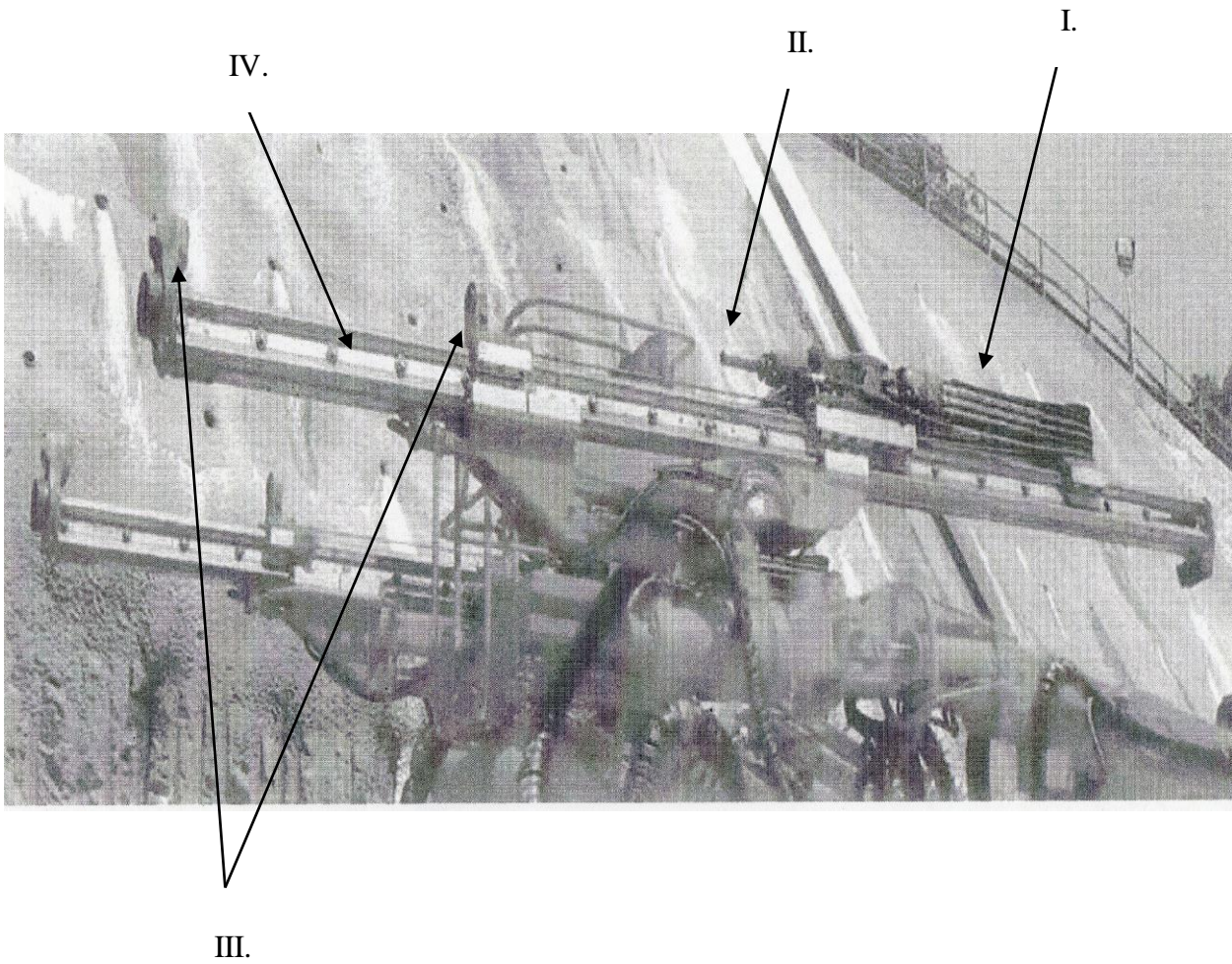
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1. During which of the following situations, the operator should use a large bombarding hammer of jumbo drilling?
 - (a) When drilling a hard rock.
 - (b) When drilling lever is being enmeshed.
 - (c) When the diameter of drilling hole is needed to change larger.
 - (d) When the drill is totally embedded inside the hole.

2. Generally, how many parts in a drilling head?
 - (a) Two parts, including drill and drilling lever.
 - (b) Three parts, including drill, drilling lever and cylinder.
 - (c) Four parts, including drill, drilling lever, cylinder and screw connector.
 - (d) None of the above.

3. When should the operator start the cleaning system of jumbo drilling?
 - (a) When the drilling hole deep enough and stop operation.
 - (b) Before drilling.
 - (c) After finishing the drilling job.
 - (d) After the drilling arm leaving.

Picture 1



4. What is the name of part I in picture 1?

- (a) Drilling cylinder.
- (b) Drilling lever stabilizer.
- (c) High-pressure oil duct.
- (d) Drilling lever.

5. What is the name of part II in picture 1?

- (a) Drilling cylinder.
- (b) High-pressure oil duct.
- (c) Drilling lever stabilizer.
- (d) Drilling lever.

6. What is the name of part III in picture 1?
- (a) Drilling lever stabilizer.
 - (b) High-pressure oil duct.
 - (c) Drilling lever.
 - (d) Drilling cylinder.
7. What is the name of part IV in picture 1?
- (a) High-pressure oil duct.
 - (b) Drilling cylinder.
 - (c) Drilling lever stabilizer.
 - (d) Drilling lever.
8. What is the aim of repair the drills of jumbo drilling?
- (a) Can shorten the drilling time when drilling hard rock.
 - (b) Increase number of hole inside drill to help cleaning.
 - (c) Reduce number of replacement of drill.
 - (d) Avoid lower the drilling size requirement, it will obstruct the exploding job.
9. When the diameter of drilling lever is lower than the drill's standard requirement. What is the significant disadvantage?
- (a) The drilling lever is easier broken as it's stressed by higher pressure.
 - (b) Drilling cylinder is stressed by higher pressure, screw is damaged.
 - (c) Difficult to control and increase the pressure on drilling arm.
 - (d) Difficult to clean as deviation occur on water holes inside drilling lever.
10. Why should the operator follow the angle of drilling instruction in exploded diagram?
- (a) Allow the operator to avoid working at a dangerous working place.
 - (b) Can control the size of rock after exploding.
 - (c) Can test the operating skill of operator.
 - (d) Can accurately control the exploding direction.

11. When the drilling arm is struck by other object, the control drilling arm signal light up, which of the followings is correct?
- (a) Cleaning system needed to be reset.
 - (b) Emergency stop system needed to be reset.
 - (c) Lost of drilling information, need to re-enter the data record.
 - (d) Computer panel is damaged.
12. For the sake of safety, what things should be checked before using jumbo drilling?
- (I) Location of jumbo drilling.
 - (II) Water pressure system.
 - (III) Alarm system.
 - (IV) Function of communication device.
- (a) I, II
 - (b) II, III
 - (c) I, IV,
 - (d) II, III, IV
13. When replacing high pressure oil duct of jumbo drilling, what is basic safety equipment required?
- (a) Fire extinguisher.
 - (b) Mask.
 - (c) Protective eye-glasses.
 - (d) All of the above.

14. How can operator control the right angle of drilling?
- (a) Measure the angle by ruler before drilling.
 - (b) Measure the angle between jumbo drilling and drilling arm.
 - (c) According to the other worker's signals during drilling.
 - (d) According to the information displayed on the control panel inside a jumbo drilling.
15. When connecting drilling arms, what basic knowledge should concern?
- (a) Avoid oil duct too long.
 - (b) Keep the drilling arms in horizontal position.
 - (c) Select the location where is large enough to stretch the drilling arms.
 - (d) Keep the stability of drilling arms.
16. How do operator decide the number, depth and place of the drilling holes?
- (a) According to daily working record.
 - (b) According to surveying marks.
 - (c) Decided by supervisor.
 - (d) According to the document certified by earth engineer.
17. Can operator decide the angle of drilling hole by themselves?
- (a) No standard.
 - (b) Yes, the operator can.
 - (c) No, should according to the design drawing.
 - (d) No, because operator do not want to travel the machine so frequently.
18. What is the use of drilling labels marked on the drilling area?
- (a) Indicate the machine placing area.
 - (b) Calculate the distance between drilling holes.
 - (c) Reflect the result after drilling.
 - (d) Clearly show the location of the drilling hole to the operator.

19. Can operator decide the depth of drilling hole when working on relatively loose rock?
- (a) Yes, because operator has professional knowledge.
 - (b) Yes, but operator should have enough experience and discuss with supervisor to reduce the risk.
 - (c) No, it will change the work load.
 - (d) No, except the risk area is large.
20. The safety distance between drilling arm and high-voltage power cable is:
- (a) More than 3 metre.
 - (b) More than 6 metre.
 - (c) More than 10 metre.
 - (d) More than 15 metre.
21. The high pressure oil duct will be damaged when rotating a drilling arm 360° is that true?
- (a) Yes, it will be damaged after adding pressure.
 - (b) Yes, so the wall of oil duct should be thick enough.
 - (c) No, because the oil duct is made of soft plastic material.
 - (d) No, because the drilling arm can rotate 180° maximum.
22. How can operator control the safe distance between drilling arm and drilling place?
- (a) Stretch the drilling arm to maximum length.
 - (b) Do not stretch the drilling arm to maximum height of drilling place.
 - (c) Depends on the length of drilling lever.
 - (d) Depends on the power of drilling machine.
23. What basic safety equipment is required for working in tunnel?
- (a) Hard hat and mask.
 - (b) Hard hat, reflective vest and mask.
 - (c) Hard hat, reflective vest, mask and communication device.
 - (d) Hard hat, glasses, reflective vest and full body harness.

24. Can material lifting skip be used for lifting workers inside the shaft?
- (a) Can, but height of lifting skip must be at least 2.5m.
 - (b) Can, but lifting skip must be emptied.
 - (c) Cannot, unless worker is injured and being look after by another person.
 - (d) Cannot, unless have prove that worker is scare of height.
25. The purpose of daily gas detection inside the tunnel is:
- (a) To prove no influence the air quality.
 - (b) To calculate the amount of air needed to be injected.
 - (c) To test for any poisonous gas and oxygen percentage.
 - (d) To calculate the number of breathing apparatus required.
26. To reduce site accident, who should participate and be responsible for safety at work?
- (a) Employer.
 - (b) Employee.
 - (c) Employer and employee.
 - (d) Safety department.
27. What is the purpose to participate in on-site safety meeting?
- (a) To comply with government regulations.
 - (b) To discuss working procedure.
 - (c) To increase safety awareness of workers.
 - (d) To allow safety department finish their work easier.

28. Which of the following procedure should be followed during welding inside tunnel?
- (a) Inject large amount of oxygen, reduce the risk of workers working in low oxygen environment.
 - (b) Apply work permit before, notify supervisor to carry out management work.
 - (c) Inform labour department before welding.
 - (d) Increase the number of gas detector in order to detect gas leakage immediately.
29. What is the best practical way to help new employee to prevent accident.
- (a) Buy life insurance.
 - (b) Let them carry out simple task first.
 - (c) Let them pass physical test.
 - (d) Provide them with safety training.
30. When working inside the tunnel, why we usually form a working group with at least two persons.
- (a) No special reason, depends on job requirement.
 - (b) No special reason, depends on order of supervisor.
 - (c) Can communicate immediately when accident occur.
 - (d) Can inspect with each other.