

Level 2 Explosive safety foundation course

Examination questions

Version Short Course

Instructions:

Do not mark or write on this examination paper
Answer all questions on the answer sheet provided.

Read each question carefully.

There are 76 Multi-choice questions.

You have 45 minutes.

The pass mark is 70%

1. What is the definition of an "explosive"?
 - A. Substances which will always detonate.
 - B. Substances which do not need oxygen to support the decomposition reaction and will always detonate.
 - C. Substances which contain their own oxygen to support the decomposition reaction and provided with the right stimulus will detonate.
 - D. Substances which need fuel to support the composition reaction and provided with the any stimulus will detonate.
2. What are the four basic effects resulting from an explosion?
 - A. Light, heat, sound, pressure.
 - B. Light, smoke, fire, blast.
 - C. Sound, fire, light, gas.
 - D. Light, gas, fire, blast.
3. Complete the definition for an explosive substance. "An explosive substance is a substance capable by chemical reaction in itself of producing"
 - A. Gas at such a temperature and at such a speed as could cause no damage to surroundings.
 - B. Gas at such a temperature and pressure at such a speed as could cause damage to surroundings.
 - C. Pressure and gas in a controlled manner, such as to provide force to move surrounding material.
 - D. Gas at a low temperature and pressure to enable the production of a blast wave.
4. Complete the definition of a pyrotechnic. "Pyrotechnics are substances which"
 - A. Are capable of undergoing a self-contained, self-sustained, exothermic chemical reaction.
 - B. Are not capable of undergoing a self-contained, exothermic chemical reaction.
 - C. Are capable of undergoing a self-contained, chemical reaction which will not be sustained.
 - D. Are capable of producing gas at such a pressure so as to damage surroundings.
5. In general, pyrotechnics have six basic effects, select the answer with the correct six effects?
 - A. Heat, light, blast, gas, fire, smoke.
 - B. Fire, noise, fragments, gas, smoke, blast.
 - C. Heat, flame, light, noise, smoke, gas.
 - D. Blast, flame, light, noise, smoke, gas.
6. What are the two main effects an explosive will produce?
 - A. Deflagration and explosion.
 - B. Detonation and fragments.
 - C. Blast and heat.
 - D. Deflagration and detonation.
7. What are the two main types of explosives?
 - A. Low explosives and detonating explosives.
 - B. Plastic explosives and high explosives.
 - C. Low explosives and high explosives.
 - D. Low explosives and pyrotechnics.

8. What type of explosives would you expect to find in a "power cartridge"?
 - A. High explosives.
 - B. Plastic explosives.
 - C. Blasting explosives.
 - D. Low explosives.

9. What type of explosive would you expected the "main filling" of an aircraft bomb to be?
 - A. Primary high explosive.
 - B. Secondary high explosive, booster.
 - C. Secondary high explosive, primer.
 - D. Secondary high explosive, main filling.

10. Which Hazard Division (HD) presents a "Fire Hazard"?
 - A. HD 1.
 - B. HD 2.
 - C. HD 3.
 - D. HD 4.

11. Why are hazard divisions further split into compatibility groups?
 - A. To enable safe storage and transportation.
 - B. To enable safe transportation only.
 - C. To enable safe storage only.
 - D. For ease of identification.

12. Which of these statements describes compatibility group S?
 - A. Substances or articles so packed or designed that any hazardous effects arising from functioning are confined to the local area.
 - B. Substances or articles so packed or designed that any hazardous effects arising from accidental functioning are not confined within the package.
 - C. Substances or articles so packed or designed that any effects arising from confinement are controlled.
 - D. Substances or articles so packed or designed that any hazardous effects arising from accidental functioning are confined within the package.

13. What does the Hazard Classification Code (HCC) contain?
 - A. UN class, hazard division & compatibility group.
 - B. UN class, hazard type & compatibility group.
 - C. Hazard division, hazard type & compatibility group.
 - D. UN class, hazard division & container type.

14. What is the definition of NEQ?
 - A. The total mass of the contained explosive substances, without the packaging, casings, bullets etc.
 - B. The total mass of the contained explosive substances, including the packaging, casings, bullets etc.
 - C. The total mass of the packaging, casings, bullets etc
 - D. The total mass of any explosive substance not in an article.

15. What is the key method used to identify the role and hazard of munitions?
 - A. Shape.
 - B. Size.
 - C. Colour
 - D. Labels.

16. What are the two groups colour coding of ammunition is split into?

- A. Under 20 mm and over 20 mm.
- B. Under 30 mm and over 30 mm.
- C. Under 10 mm and over 10 mm.
- D. There is no split.

17. On ammunition under 20 mm where is the colour applied to?

- A. The whole round.
- B. The base of the bullet only.
- C. In a band around the middle of the bullet.
- D. The tip of the bullet.

18. On ammunition under 20 mm what would a colour of "red" denote?

- A. Armour-piercing.
- B. Incendiary.
- C. Observing.
- D. Tracer.

19. On ammunition over 20 mm what would a colour of "golden yellow" denote?

- A. Low explosive.
- B. Armour defeating.
- C. Countermeasure.
- D. High explosive

20. Which colour is used to denote a "drill" round?

- A. Deep Saxe blue.
- B. Golden yellow.
- C. Oxford blue.
- D. Black.

21. What is the difference between a "practice" round and a "drill" round?

- A. Practice can contain low explosives and drill will not contain high explosives.
- B. Practice can contain explosives and drill will never contain explosives.
- C. Practice uses expensive explosives and drill uses cheaper explosives.
- D. Practice and drill use the same explosive but are different sizes.

22. Where would you find the legal interpretation of the term "pyrotechnic article"?

- A. Explosive Regulations 2014.
- B. JSP 482 MOD Explosive Regulations.
- C. The QinetiQ Munitions and Accounting System (QMAS).
- D. The QinetiQ Learning Zone (QLZ).

23. Which of these are defined as explosion types?

- A. Nuclear, chemical, plastic.
- B. Physical, airblast, chemical.
- C. Physical, nuclear, chemical.
- D. Nuclear, physical, blast.

24. Which of these statements describes the functions of the explosive train?

- A. It provides a method of initiating the main charge only.
- B. It provides a method of initiating the main charge and, if the train is broken it makes the article safer to transport.
- C. It provides a method of initiating the main charge and, if the train is broken it makes the article more sensitive therefore harder to transport.
- D. It provides a method of initiating the primary explosive and, if the train is intact it makes the article safer to transport.

25. Which of these can lead to explosives becoming unsafe?
- A. Poor classification.
 - B. Poor labelling.
 - C. Poor accounting.
 - D. Poor storage conditions.
26. On a simple munition such as a small arms round, what type of metal is the cartridge case normally made out of?
- A. Hard to ensure it will not break.
 - B. Very light alloy to ensure it breaks up during firing.
 - C. Composite alloy to give it extra strength to withstand the forces of the propellant.
 - D. Soft to allow the case to obturate and for a gas tight seal inside the breech.
27. On a complex munition such as an air-to-air missile system, which of these best describes the major components?
- A. Guidance section, target detector, warhead, wings.
 - B. Guidance section, target detector, warhead, rocket motor and wings.
 - C. Guidance section, warhead, rocket motor and wings.
 - D. Guidance section, target detector, rocket motor and wings.
28. Which of these factors may affect explosive stability?
- A. Transportation.
 - B. Poor accounting.
 - C. Exposure to ultra-violet rays of sunlight.
 - D. Use of metal containers.
29. Which of the following will ensure the stability of explosives is maintained?
- A. Use of correct packaging.
 - B. Only use open storage.
 - C. Ensure transported upright at all times.
 - D. Only use metal ammunition containers.
30. Why was nitroglycerin considered impractical for use as a general explosive?
- A. It has a high cost of production.
 - B. It will only deflagrate.
 - C. It produces copious amounts of smoke.
 - D. It has a very low activation energy barrier.
31. What was added to nitroglycerin to make dynamite?
- A. A stabiliser.
 - B. A dye.
 - C. Black Powder.
 - D. Acid.
32. The life expiry date for explosives is calculated from which two factors?
- A. Date of manufacture and lot number.
 - B. Lot number and stock number.
 - C. Date of manufacture and hazard type.
 - D. Lot number and best before date.
33. What are the two main decomposition reactions caused by ageing of explosives?
- A. Physical expansion and thermal explosion.
 - B. Instability and thermal explosion.
 - C. Instability and reduced strength.
 - D. Instability and reduced sensitivity.

34. The presence of moisture in explosives is undesirable because it reduces the?

- A. Sensitivity, strength and velocity of detonation.
- B. Sensitivity, expansion rate, performance and strength.
- C. Sensitivity, velocity of detonation and expansion rate.
- D. Sensitivity, strength and shelf life.

What does the term "ALARP" mean?

- A. As low as reasonably possible.
- B. As low as reasonably profitable .
- C. As low as reasonably practicable.
- D. As low as reasonably potential.

35. What is something that could cause adverse effects called?

- A. A hazard.
- B. A risk.
- C. A potential.
- D. A probability.

36. What is the term used to describe when you accurately document how you consider the work of the company should be done by your employees, particularly with regard to hazardous work processes?

- A. Risk management solutions.
- B. Safe systems of work.
- C. Safe procedures and documents.
- D. Competency management system.

37. Which of these is a reason to have OME security?

- A. Keep cost down.
- B. Allow unrestricted access.
- C. Explosive accounting.
- D. To prevent unauthorised access.

38. Which of the following are reasons why contractor control is important?

- A. To reduce the potential for any incidents.
- B. For contractors to understand the risk they will be exposed to.
- C. For us to understand the risk contractors pose to the explosives and us.
- D. A, B and C are reasons.

39. What are contractors issued with before they can carry out maintenance work in an explosives area?

- A. Security pass for the explosives area.
- B. Temporary Section 5 authority.
- C. Explosives area permit to work.
- D. Nothing extra is required as covered by FM permits.

40. What is the process called where you identify those things, situations, processes, activities, etc that may cause harm, particularly to people?

- A. Process management.
- B. Harm assessment.
- C. Activity Breakdown.
- D. Risk Assessment.

41. Which of the following is a reason to document a Risk Assessment?

- A. Communicate risks and controls.
- B. Communicate building hazard codes.
- C. Identify explosive types.
- D. Identify tools and equipment.

42. When carrying out hazard identification for explosive disposal which of the following should you consider?
- A. The storage licence limit.
 - B. The quality of personnel on the range.
 - C. The use of correct packaging.
 - D. Blast overpressure.
43. What document will contain information to allow employers to carry out risk assessments required by COSHH?
- A. Safety Data Sheet (SDS).
 - B. Chemical Safety Sheet (CSS).
 - C. Safety Chemical Information Sheet (SCIS).
 - D. Safety Chemical Sheet (SCS).
44. What are the 3 elements of the fire triangle?
- A. Heat, light, sound.
 - B. Heat, oxygen, flame.
 - C. Heat, oil, fuel.
 - D. Heat, fuel, oxygen.
45. What extinguisher would you use on a fire containing TNT?
- A. Dry powder.
 - B. Water gas.
 - C. CO₂.
 - D. None, we do not fight fires involving explosives.
46. In transport regulations what term is applied to dangerous goods which have the potential for misuse in a terrorist event?
- A. Deadly goods.
 - B. High value dangerous goods.
 - C. High consequence dangerous goods.
 - D. Highly dangerous dangerous goods.
47. What is security of Dangerous Goods there to minimise?
- A. The misuse that could endanger persons only.
 - B. The misuse that could endanger property only.
 - C. The misuse that could endanger the environment only.
 - D. A, B and C are all reasons.
48. Which of these are considered factors in the safe storage of explosives?
- A. Security fencing to HSE standards.
 - B. Up to date IT accounting systems.
 - C. Powerful street lighting.
 - D. Good housekeeping.
49. Antistatic and conductive regimes were traditionally known as?
- A. Intermediate and top regimes.
 - B. First degree and full regimes.
 - C. Intermediate and second degree regimes.
 - D. Second degree and third degree regimes.
50. What test are used to determine the electrostatic sensitiveness of explosives?
- A. EMTAP.
 - B. EED.
 - C. ADR.
 - D. HAPTM.
51. In a conductive regime what must external clothing not be able to do?
- A. Cover your head.
 - B. Be loose.
 - C. Have pockets.
 - D. Generate electrostatic charge.

52. Which of the following types of explosives would need special arrangements to be made for storage?

- A. New explosives with a safety data sheet.
- B. Experimental explosives.
- C. Very large bombs.
- D. Explosive not in a package.

53. Which of the following might be considered when applying special arrangement for storage?

- A. Reduced explosive limits only
- B. Segregation only.
- C. Isolation only.
- D. A, B and C are all considerations.

54. On what form is a summary of Potential Explosion Site (PES) inspections and maintenance record on?

- A. Checklist for PES.
- B. Building maintenance logbook.
- C. PES logbook.
- D. PES maintenance record.

55. Which of the following is a purpose of ammunition markings?

- A. To enable the correct nature and type of ammunition to be issued to the user.
- B. To ensure it complies with British Standards (BS).
- C. To comply with ITAR regulations
- D. There is no purpose to it.

56. What does the Batch Identity (BI) contain?

- A. Manufacturer's monogram, date of filling.
- B. Manufacturer's monogram, lot/batch number.
- C. Date of filling, lot/batch number.
- D. Manufacturer's monogram, date of filling, lot/batch number.

57. Which of these details is underlined?

- A. Manufacturer's monogram.
- B. Date of filling.
- C. Lot/Batch Number.
- D. None.

58. Where would you find details of bans and constraints of ammunition?

- A. Joint Service Munitions Control Register (JSMCR).
- B. QinetiQ Munitions Accounting System (QMAS).
- C. International Trafficking In Arms Regulations (ITAR).
- D. Health and Safety Executive (HSE).

59. What is the definition of a BAN?

- A. The imposition of a specific limitation or restriction within the whole life of the munition.
- B. A temporary or permanent instruction ordering the immediate prohibition of use of a munition.
- C. To prohibit or forbid especially by legal means.
- D. To never use.

60. Which of the following must be marked on a package containing explosives by the consignor?

- A. Only the UN number preceded by the letter UN.
- B. Only the proper shipping name.
- C. Only the primary hazard label.
- D. A, B and C must be on the package.

61. Who is responsible for selecting the correct type of vehicle to transport explosives?

- A. The consignor (sender).
- B. The consignee (receiver).
- C. The driver of the vehicle.
- D. The carrier.

62. What does the term FFEH mean?
- A. The item is free to handle safety.
 - B. The item is totally safe and that no hazard exists, including chemical.
 - C. There is still some chemical residue present, but it does not pose an explosive hazard.
 - D. The item is for training use only.
63. Where must CFFE be carried out?
- A. In any building.
 - B. Outside only.
 - C. In a licensed area marked CFFE ONLY.
 - D. Only in an explosive storage building marked CFFE ONLY.
64. What would you do if you broke an authenticity seal during an inspection?
- A. Nothing, replace box and continue.
 - B. Reseal the box with tape.
 - C. Reseal the box, if authorised to do so and report the incident to my supervisor.
 - D. Reseal the box and place it back into store
65. What is the term used to describe the sudden flow of electricity between two charged objects caused by contact?
- A. EED.
 - B. PES.
 - C. ESD.
 - D. PDR.
66. How many explosive licences does a site normally have?
- A. 1.
 - B. 10.
 - C. 20.
 - D. 30.
67. How are the outside buildings and work distances shown on a safeguarding map?
- A. Coloured lines.
 - B. Symbols.
 - C. They are not shown.
 - D. Pictures and arrows.
68. Which of the following are considered to be contraband and not permitted into an explosive area?
- A. Copper bracelets.
 - B. Medicines.
 - C. Firearms.
 - D. A, B and C are all prohibited.
69. What action would you take if you found a contraband item when in the explosive area?
- A. No action required.
 - B. Keep item with me and place it into a locker at the end of the day.
 - C. Place outside the building until cease work.
 - D. Tell your supervisor immediately.
70. What is the function of a lightning protection system?
- A. To gather electric energy and store for future use.
 - B. To protect structures from fire or mechanical destruction and to prevent that persons in buildings are injured or even killed.
 - C. To protect vehicles and buildings from lightning.
 - D. To ensure all energy is passed through the explosives via the internal bonding system.

71. What is the definition of calibration?
- A. Checking accuracy of a measurement instrument by comparing it to a reference standard.
 - B. Checking the weight of an instrument on scales.
 - C. Checking an instrument by comparing it against another instrument in the tool kit.
 - D. Measuring the output of an instrument by using reference samples.
 - E.
72. What is the purpose of calibration?
- A. To ensure the instrument will work.
 - B. The result of equipment calibration is higher accuracy.
 - C. The result of equipment calibration is lower accuracy.
 - D. There is no purpose to calibration.
73. Where would you find guidance on the classification of wastes?
- A. QMAS.
 - B. HSE website.
 - C. On the packaging the item came in.
 - D. There is no guidance available.
74. What legislation covers the contamination of land or water?
- A. Health and safety at work act.
 - B. ADR transport regulations.
 - C. Environmental protection act.
 - D. Waste classification act.
75. What are the four major routes chemicals can use to entry the body?
- A. Inhalation, absorption, ingestion, injection.
 - B. Inhalation, abrasion, ingestion, injection.
 - C. Inhalation, absorption, ingestion, input.
 - D. Intoxicate, absorption, ingestion, injection.
76. What is the most common way workplace chemicals enter the body?
- A. Inhalation.
 - B. Absorption.
 - C. Ingestion.
 - D. Injection.