

Paper Code: M-EPA-FESST3001

Level 3

Fire, Emergency and Security Systems Technician EPA Mock Multiple-choice Test

Information for registered centres

The seal on this examination paper must only be broken by the candidate at the time of the examination. Under no circumstances should a candidate use an unsealed examination paper.

Information for candidates

Under no circumstances should you, the candidate, use an unsealed examination paper.

This examination consists of **60 multiple-choice** questions.

The exam is worth **60 marks**, with a Pass being **36 marks**, and Distinction **48 marks**.

The duration of this examination is **75 minutes**.

You are **NOT** allowed any assistance to complete the answers.

You must use a pencil to complete the answer sheet - pens must **NOT** be used.

When completed, please leave the **examination answer sheet (EAS)** on the desk.

EXAMINATION ANSWER SHEET (EAS) INSTRUCTIONS:

For each question, fill in **ONE** answer **ONLY**.

If you make a mistake, ensure you erase it thoroughly.

You must mark your choice of answer by shading in **ONE** answer circle only.

Please mark each choice like this:

01 A B C D **ANSWER COMPLETED CORRECTLY**

Examples of how NOT to mark your examination answer sheet (EAS). These will not be recorded.

01 A B C D **DO NOT** partially shade the answer circle
ANSWER COMPLETED INCORRECTLY

01 A B C D **DO NOT** use ticks or crosses
ANSWER COMPLETED INCORRECTLY

01 A B C D **DO NOT** use circles
ANSWER COMPLETED INCORRECTLY

01 A B C D **DO NOT** shade over more than one answer circle
ANSWER COMPLETED INCORRECTLY

All candidates **MUST** sign the Examination Answer Sheet (EAS) in the bottom right-hand corner of the page before leaving the examination room.

1

Changes in a buildings layout may affect the intruder alarm system. What action **must** take place?

- A. An increase in the grade of the system
- B. A new risk assessment completed
- C. A lowering of the system grade
- D. An inspection by the police

2

Which unit is typically used to measure file sizes?

- A. Voltage
- B. Ohms
- C. Bytes
- D. Tesla

3

BS 5839 recommends that fire alarm systems are inspected and serviced every:

- A. 2 months
- B. 4 months
- C. 6 months
- D. 8 months

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The **main** purpose of undertaking a risk assessment is to:

- A. identify hazards and reduce the risk of them causing harm
- B. identify hazards and notify the Health and Safety Executive (HSE)
- C. eliminate risks and inform the insurance company
- D. eliminate risks and inform the relevant authority

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In electrical testing, a continuity test is conducted to:

- A. measure voltage
- B. check a circuit's integrity
- C. assess battery life
- D. determine resistance

6

What is the **main** advantage of using mesh topology?

- A. The communication is dependable
- B. The technology is high quality
- C. It is simple to use
- D. It has lower costs

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A linear heat detection cable provides detection for the:

- A. top of the cable
- B. middle of the cable
- C. end of the cable
- D. entire length of the cable

8

What is the total resistance of 4 resistors connected in a series with values of 2 ohms, 10 ohms, 1 kohms and 600 ohms?

- A. 613 ohms
- B. 712 ohms
- C. 1,612 ohms
- D. 1,820 ohms

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The **main** purpose of a Gantt chart in project management is to:

- A. list the required materials
- B. show the project timeline
- C. show the system layout
- D. list the clients' requirements

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Why is it important to calculate the correct storage device size for video surveillance systems?

- A. To ensure data integrity
- B. To optimise recording duration
- C. To reduce energy consumption
- D. To decrease the frame rates

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Which of the following detection systems is required in a kitchen?

- A. A motion sensor system
- B. An air aspiration system
- C. A carbon monoxide detector
- D. A heat detector

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Which of the following detectors **cannot** be sited where the range of coverage overlaps?

- A. Passive infrared (PIR) and passive infrared (PIR)
- B. Dual technology (DT) and dual technology (DT)
- C. Passive infrared (PIR) and dual technology (DT)
- D. Dual technology (DT) and vibration sensor

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What is the **main** advantage of using twisted pair cabling in installations of data cabling?

- A. The cost effectiveness
- B. The ease of fitting
- C. The aesthetic appeal
- D. The reduced signal interference

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Which type of cable is suitable for an environment subject to electrical noise?

- A. Multi-core cable
- B. Shielded cable
- C. LSF Cable
- D. Alarm cable

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The current Control of Noise at Work Regulations requires hearing protection to be used when the daily noise exposure reaches and exceeds:

- A. 62 dBA
- B. 85 dBA
- C. 105 dBA
- D. 110 dBA

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The sensing elements commonly combined to make up a dual-tech sensor are:

- A. a smoke alarm and passive infrared (PIR)
- B. two passive infrareds (PIR)
- C. a microwave (radar doppler effect) and pressure sensor
- D. a passive infrared (PIR) and microwave (radar doppler effect)

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As the length of a cable increases, the resistance will:

- A. increase
- B. decrease
- C. be unaffected
- D. be halved

18

A manual-operation-only fire system that has call points on all exits and corridors, where people are not expected to walk more than 45m, is classed as a:

- A. Category F
- B. Category L
- C. Category M
- D. Category P

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During the handover of an intruder alarm system, the engineer will provide the customer with:

- A. instructions on how to access the engineering menus
- B. instructions on how to perform simple repairs
- C. a complete circuit list of device locations with a marked drawing
- D. a complete, but small, testing device kit with information for users

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An electronic lock's drawn current is measured using:

- A. an ammeter in series with the lock
- B. a galvanometer next to the lock
- C. a voltmeter attached to the power source of the lock
- D. an ohmmeter in parallel with the lock

21

What **must** a technician do if they are asked to operate a machine that they have not been trained to use?

- A. Operate it very carefully
- B. Ask their team leader if it is ok to go ahead
- C. Ask the site manager if it is ok to go ahead
- D. Politely decline

22

What is the **maximum** permitted entry time in a grade 3 system?

- A. 20 seconds
- B. 45 seconds
- C. 60 seconds
- D. 90 seconds

23

In project management, an organisational chart is used to see:

- A. how the working day should be scheduled
- B. when employees are on annual leave
- C. the organisation's monthly sales and revenue
- D. the hierarchy of personnel within the organisation

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Smart apps in security systems typically communicate with users through:

- A. direct wired connections
- B. radio frequency identification (RFID)
- C. the internet
- D. printed reports

25

Which of the following is the recommended type of smoke detector to install in a UK home?

- A. An ionisation detector
- B. A photoelectric detector
- C. A combination ionisation and photoelectric detector
- D. An isolation ionisation and photoelectric detector

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According to BS 8243, what should happen if a confirmed alarm signal is **not** received within a confirmation period?

- A. The alarm should be reset
- B. The police should be notified
- C. The alarm will enter fault mode
- D. Additional sensors will be activated

27

Which formula is used for calculating power in an electrical circuit?

- A. $V = IR$
- B. $P = IV$
- C. $P = V/I$
- D. $Q = It$

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A security systems technician is planning to install an alarm for a client. They have identified that potential intruders are unlikely to have any knowledge of alarm systems. Which type of system is recommended?

- A. Grade 1
- B. Grade 2
- C. Grade 3
- D. Grade 4

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In the UK, what is the standard operating mains frequency for CCTV?

- A. 50 Hz
- B. 55 Hz
- C. 65 Hz
- D. 120 Hz

30

Which piece of personal protective equipment (PPE) is necessary for working in a loft space?

- A. Earplugs
- B. A high-visibility vest
- C. A face mask
- D. A disposable apron

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The **main** function of a fire detection system is to:

- A. control the spread of fire
- B. extinguish fires
- C. prevent fires
- D. alert people of fire

32

For video surveillance systems using Power over Ethernet (PoE), which of the following is a **key** factor when calculating the power requirements?

- A. Ensuring compatible BNC connectors for all PoE devices
- B. The battery capacity needed to meet system requirements
- C. The total power consumption of all PoE devices
- D. Configuration of frame rate and resolution

33

Which is the SI unit for electrical current?

- A. Ampere
- B. Volt
- C. Joules
- D. Watt

34

What **must** be considered when developing a project schedule for a fire system's installation?

- A. Commissioning work to technicians
- B. Prioritising safety protocols
- C. Testing the alarms
- D. Discussing requirements with stakeholders

35

What is used to support cables and protect them against premature collapse in the event of a fire?

- A. Plastic cable ties
- B. Plastic saddles
- C. Adhesive tape
- D. Metal fixings

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In a monitored fire alarm system, what is the minimum percentage (%) of devices that **must** be tested quarterly?

- A. 10%
- B. 25%
- C. 50%
- D. 100%

37

Which of the following **must** be included in the project timeline for fire system installation?

- A. Milestones and deadlines
- B. Dates of team meetings, and employee availability
- C. Dates of team meetings and deadlines
- D. Employee availability and milestones

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Which of the following technologies uses thermal imaging?

- A. Smoke detector
- B. Linear heat detector
- C. Carbon monoxide detector
- D. Flame detector

39

Which British Standard outlines the application guidelines for access control systems?

- A. BS EN 60839-11-2
- B. BS EN 50136-7
- C. BS EN 50131
- D. BS EN 50132-7

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Which action reduces a significant voltage drop in a circuit?

- A. Increasing the diameter of the conductor
- B. Decreasing the diameter of the conductor
- C. Using a higher voltage source
- D. Adding an end of line resistor

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What is the **minimum** standby battery requirement for a fire alarm with a quiescent load of 110mA, an alarm load of 200mA and a standby period of 24 hours?

- A. 2aH
- B. 4aH
- C. 7aH
- D. 12aH

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According to the current Work at Height Regulations, 'working at height' is when:

- A. a person is working at a minimum of 2 meters from the ground level
- B. there is a likelihood of falling a distance that could result in personal injury
- C. access equipment requires the use of a harness or fall protection
- D. someone is operating within 1 meter of an unprotected edge

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What is the total resistance of 3 parallel resistors with values of 2 ohms, 3 ohms and 5 ohms?

- A. 0.643 ohms
- B. 0.721 ohms
- C. 0.854 ohms
- D. 0.968 ohms

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Which test ensures the integrity of insulation in fire alarm cabling?

- A. Insulation Capacitance Test
- B. Insulation Resistance Test
- C. Insulation Resistivity Test
- D. Insulation Responsiveness Test

45

Which type of fire alarm system is more advanced and allows fires to be located more precisely?

- A. Conventional
- B. Addressable
- C. Wireless
- D. Analogue

46

What is the process of changing digital data in a storage device known as?

- A. Manipulating
- B. Storing
- C. Retrieving
- D. Transmitting

47

What unit is used to measure the capacitance in an electronic system's capacitor?

- A. Ohm
- B. Farad
- C. Ampere
- D. Joule

48

The **main** objective of safe system of work (SSOW) procedures is to:

- A. deliver a comprehensive list of all tasks that need to be performed safely by employees
- B. produce a legal defence for the company in case of workplace accidents
- C. ensure that the company avoids fines and remains profitable
- D. provide a structure for risk management, ensuring tasks are performed safely and effectively

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Which format is used to compress files for easier transfer?

- A. .exe
- B. .txt
- C. .zip
- D. .png

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Which fire alarm category is **mainly** aimed at property protection?

- A. P1
- B. L2
- C. M
- D. L3

50

What is the name of the CCTV camera that refers to the IP (Internet Protocol) camera, which transmits the recording and power through an ethernet cable?

- A. Ethernet over picture
- B. Ethernet over power
- C. Picture over Ethernet
- D. Power over Ethernet

54

When selecting a fuse, what is the **main** factor to consider?

- A. Voltage rating
- B. Fuse material
- C. Current rating
- D. Fuse size

51

What does British Standard EN 50131 regulate?

- A. The design of fire alarms
- B. The installation of wiring
- C. Video surveillance systems
- D. Intruder alarm systems

55

Which of the following is **not** a recommended method for controlling exposure to hazardous substances?

- A. Personal protective equipment
- B. Elimination of the hazardous substance
- C. Ventilation of the area
- D. Increasing the duration of the exposure

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During the **final** stage of a security system project, what is the name of the document used to ensure that all requirements are met?

- A. Knowledge transfer
- B. Handover checklist
- C. System acceptance test
- D. Risk assessment checklist

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When a metre reads infinite resistance, it indicates:

- A. high voltage
- B. a short circuit
- C. an open circuit
- D. a faulty metre

57

How does remote support contribute to system maintenance and commissioning?

- A. It reduces the energy consumption of systems during maintenance
- B. It reduces the requirement for regular maintenance visits
- C. It enables diagnostics and configuration without being on-site
- D. It prevents the need for obtaining electrical readings

60

A grade 4 intruder alarm system indicates a:

- A. low level of risk
- B. low to medium level of risk
- C. medium to high level of risk
- D. high level of risk

58

What is the **main** function of cable catenary systems in installations?

- A. To insulate cables from electrical interference
- B. To provide structural support for cable runs
- C. To regulate the temperature of the cables
- D. To provide mechanical protection to the cable

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The **main** benefit of internal company codes of practice is that they:

- A. increase staff turnover and quality
- B. ensure all other companies follow the same standards
- C. ensure that the company follows health and safety laws
- D. set standards and expectations for all employees to follow







**Level
3**

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