

Paper Code: M-EPA-IMP4006

Level
4

Improvement Practitioner - EPA Mock Multiple-Choice Exam (Open Book)

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 **40 multiple-choice** questions.

The exam is worth **40 marks**, with a Pass being **25 marks**, Merit **30 marks**, and Distinction **36 marks**.

The duration of this examination is **40 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 ☒ **ANSWER COMPLETED CORRECTLY**

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

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

01 ☐ A ☐ B ☒ ☒ **DO NOT** use ticks or crosses
ANSWER COMPLETED INCORRECTLY

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

01 ☐ A ☐ B ☒ ☒ **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

Which of the following is a **key** purpose of process design in project management?

- A. To allow team members to decide on processes independently as the project progresses
- B. To define the steps, roles and responsibilities required to meet project goals
- C. To ensure processes remain unchanged throughout the project lifecycle
- D. To prioritise individual decision-making in a project over complex planning

2

What is typically used to determine control limits in a control chart?

- A. The moving average of multiple historical measurements
- B. The target performance level set by management goals
- C. The three highest and lowest recorded data points over time
- D. The three standard deviations from the process average

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How is the mean of a dataset calculated?

- A. By adding all values and dividing by the total number of values
- B. By finding the most frequently occurring value in the dataset
- C. By identifying the middle value in an ordered list of data points
- D. By selecting the highest and lowest values and averaging them

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Why is establishing a baseline a **key** objective of value stream mapping?

- A. It documents the current process, enabling comparisons for future improvements
- B. It ensures that all processes remain unchanged to maintain consistency over time
- C. It focuses on financial metrics without considering workflow optimisation
- D. It prioritises reducing the number of steps in a process regardless of their impact on efficiency

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Which of the following measures of spread is typically affected by greater outliers?

- A. The interquartile range as it only considers the middle 50% of data points
- B. The range as it depends on the minimum and maximum values
- C. The standard deviation as it ignores extreme values in a dataset
- D. The variance as it is based on the difference between quartiles

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Which of the following defines failure cause in failure analysis?

- A. The effects a failure has on overall system performance and reliability
- B. The external conditions that influence a system to fail unexpectedly
- C. The specific way a component stops performing its intended function
- D. The underlying reason or root cause leading to a system failure

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Which of the following is an example of an external failure cost according to the cost of poor quality (CoPQ)?

- A. A car manufacturer issuing a product recall due to a safety defect
- B. A company implementing training programmes to enhance employee quality awareness
- C. A factory investing in process improvement initiatives to reduce defects
- D. A supplier inspecting incoming raw materials to ensure they meet quality standards

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How does designing an experiment plan support decision-making?

- A. By allowing decisions to be made based on initial results without requiring additional experiments
- B. By ensuring potential outcomes are tested in advance, reducing the need for further analysis
- C. By providing structured data that impacts the experiment output, leading to process improvements
- D. By reducing the need for qualitative analysis as only numerical data is considered valid

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Why is a scatter plot effective for analysing relationships between variables?

- A. It clearly establishes causation between variables in data
- B. It ensures that all data variables have a direct and measurable relationship
- C. It removes the need for statistical calculations in data interpretation
- D. It visually displays correlations between data points

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Which of the following is a direct benefit of limiting work-in-progress (WIP) in a Kanban system?

- A. It ensures that every workstation operates at full capacity at all times
- B. It forces production teams to complete all work before starting new tasks
- C. It prioritises the long-term storage of materials over the real-time production needs
- D. It restricts the number of items being manufactured unnecessarily, avoiding overproduction

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Which of the following is a **key** reason Six Sigma leads to improved product and service quality?

- A. It focuses on reducing manufacturing costs with minimal impact on service quality
- B. It relies on statistical analysis to identify and eliminate defects in processes
- C. It replaces the need for business strategies to have a universal approach to quality management
- D. It standardises all business operations to prevent any flexibility in production

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What is the purpose of a Gage Repeatability and Reproducibility (Gage R&R) study?

- A. To assess whether measurement variation is within acceptable limits for the product measurement required
- B. To determine if a system can measure different materials with the same level of precision
- C. To evaluate whether a system can maintain accuracy when used in different environments
- D. To track accuracy changes over time by comparing old and new measurement data

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Why are noise factors **key** in a Parameter diagram (P-diagram)?

- A. They ensure that only controlled variables are included in process analysis
- B. They help to determine how internal or external disturbances may affect system performance
- C. They represent fixed variables that remain unchanged throughout operations
- D. They serve as direct inputs that dictate the expected output of a process or system

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Why is process capability analysis reliant on continuous data?

- A. It allows for accurate process capability index calculations
- B. It eliminates human errors from the measurement process
- C. It helps to group process capability index data into categories
- D. It reduces the time needed to complete complex data collection

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Which of the following is a **key** advantage of Microsoft Excel for statistical analysis?

- A. It is an open-source tool with extensive coding flexibility
- B. It is highly specialised for complex statistical modelling
- C. It is mainly designed for large-scale data science applications
- D. It is widely available to businesses with a user-friendly interface

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Which of the following is a potential risk of failing to properly cascade the balanced scorecard throughout an organisation?

- A. Employees will be too focused on performance measurements, reducing engagement and performance in their roles
- B. Senior leadership may spend too much time communicating objectives, reducing time for decision-making
- C. Teams and individuals may pursue objectives that do not align with the overall business strategy, leading to inefficiencies
- D. The organisation may struggle to adapt to new market conditions due to an overemphasis on individual goal setting

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How can an organisation improve the accuracy of its benefits tracking?

- A. By avoiding the use of stakeholder feedback in the assessment
- B. By limiting tracking to financial outcomes and ignoring qualitative factors
- C. By measuring both tangible and intangible benefits
- D. By reviewing benefits at the end of a project

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Which of the following defines Overall Equipment Effectiveness (OEE)?

- A. A calculation used to determine financial probability by comparing operational costs to revenue
- B. A measure of how efficiently an organisation uses all of its available resources, labour and materials
- C. A metric assessing equipment productivity based on availability, performance and quality
- D. A tool used exclusively for scheduling equipment maintenance throughout the workplace

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Which of the following describes the structure of a work breakdown structure (WBS)?

- A. A detailed list of project activities that are grouped by department
- B. A financial breakdown of project costs and resource allocation
- C. A flexible framework that allows tasks to be added or removed where necessary
- D. A hierarchical decomposition of project deliverables and tasks

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Why **must** an employer provide and maintain safe systems of work?

- A. To ensure employees work efficiently and meet deadlines
- B. To minimise risks related to procedures, tools and equipment
- C. To prevent employees from making mistakes in their tasks
- D. To reduce the amount of paperwork needed for health and safety

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How does the Lean principle of 'identity value' contribute to business value?

- A. By defining what is important from the customer's perspective to focus efforts on essential activities
- B. By ensuring that internal operational goals take precedence over external customer expectations
- C. By prioritising the lowest-cost production methods over product quality and performance
- D. By standardising all processes across the organisation regardless of customer needs

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Why do organisations typically experience decreased productivity in the early stages of change?

- A. Employees are adjusting to new expectations and may feel uncertain
- B. Employees refuse to participate in new processes
- C. Leadership is not involved in managing change effectively
- D. The change has been poorly implemented and will not succeed

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How can escape points be addressed in a control system?

- A. By disregarding minor defects that do not affect product functionality
- B. By ensuring all defects are accepted as part of variability
- C. By improving detection mechanisms and inspection processes
- D. By removing unnecessary quality control steps and checks in production

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What is a **key** benefit of understanding the relationship between critical inputs and resource allocation?

- A. It eliminates all forms of inefficiency without requiring more complex analysis
- B. It ensures resources are directed towards factors with the highest impact on outcomes
- C. It guarantees that all process inputs contribute equally to the final output
- D. It prevents the need for performance reviews leading to cost assessments

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How does Failure Mode and Effects Analysis (FMEA) help organisations to prioritise risks?

- A. By eliminating all risks immediately to reduce the need for further risk assessment
- B. By ensuring that all risks are treated equally regardless of their impact or frequency
- C. By identifying the most expensive risks and failure modes to focus on cost reduction
- D. By ranking failure modes based on a three-factor scoring system to assess risk

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Spreadsheet automation improves the efficiency of business processes by:

- A. immediately predicting and adjusting to future business trends
- B. removing the need for human intervention in data management
- C. replacing all enterprise software with a single spreadsheet
- D. using formulas and functions to reduce manual calculations

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Why is validating hypotheses **key** in root cause analysis?

- A. It allows teams to bypass investigations to focus on quick fixes
- B. It ensures that identified causes are tested before implementing solutions
- C. It focuses on past experiences rather than testing new causes
- D. It prevents unnecessary changes by addressing surface-level issues

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How does the RACI model help prevent duplication of effort in a project?

- A. By allowing multiple individuals to make decisions independently
- B. By defining clear responsibilities for each role involved in a task
- C. By ensuring that roles are broadly defined to give teams flexibility in execution
- D. By focusing on overall project outcomes rather than assigning specific responsibilities

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What needs to happen to Takt time if customer demand increases while available production time remains the same?

- A. It must decrease meaning a faster production rate is required
- B. It must increase meaning a slower production rate is required
- C. It needs to be recalculated only at the beginning of the production cycle
- D. It needs to be recalculated only at the end of the production cycle

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What is the **main** purpose of a toll-gate review in project management?

- A. To confirm project alignment with business goals
- B. To document every conversation between stakeholders
- C. To finalise the project's overall budget for each department
- D. To replace the need for dynamic risk assessments

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What is the **main** difference between active and passive analytics?

- A. Active analytics drives immediate actions, while passive analytics informs future decisions
- B. Active analytics is only used for long-term trends, while passive analytics works in real time
- C. Active analytics requires human intervention, while passive analytics uses automated responses
- D. Active analytics uses historical data, while passive analytics only uses predictions

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Why is continuous improvement important in customer compliance?

- A. A business's compliance requirements evolve meaning they require regular adaptation
- B. Businesses can avoid future training and awareness programmes
- C. It allows businesses to shift priorities to cost-cutting measures when considering future planning
- D. It helps businesses to focus on internal processes rather than external regulations

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Which of the following is a **key** reason why a compelling point of view needs to inspire confidence in change?

- A. It allows employees to determine their own level of involvement in the change
- B. It ensures that change is implemented without any resistance
- C. It helps stakeholders to embrace uncertainty by framing change positively
- D. It shifts responsibility for change to senior leadership

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Why is capability index centred (CpK) more informative than the capability index (Cp)?

- A. It accounts for both process spread and process centring
- B. It calculates the average cycle time of a production run
- C. It ensures that only machines are responsible for quality
- D. It measures how frequently a process produces defects

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What is the **main** reason the Theory of Constraints emphasises subordinating all other processes to the constraint?

- A. To allow non-constrained areas to operate at maximum efficiency independent of the constraint
- B. To balance workloads across all departments, preventing specialisation
- C. To ensure that all processes maintain their current operational levels
- D. To maximise the output of the constraint by ensuring the downstream processes are ready to service it

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Which of the following factors helps to build stakeholder confidence in a business case?

- A. Demonstrating how risks are continuously monitored and managed
- B. Ensuring that only senior management is involved in risk discussions
- C. Reducing transparency by limiting access to risk information
- D. Using complex terminology to highlight risk management processes

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What is the **main** purpose of using swim lanes in a flow diagram?

- A. To enforce a rigid structure that eliminates flexibility in workflow execution
- B. To ensure that every department follows the same set of process steps regardless of role-specific differences
- C. To simplify a process by removing steps that do not add immediate value to a project
- D. To visually separate responsibilities to make it clear which roles or teams handle each process step

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How does assessing return on investment (ROI) help in project selection?

- A. It eliminates the need for risk assessment as profitability is the only selection criterion
- B. It ensures that financial benefits justify the required resource allocation and effort
- C. It guarantees that all selected projects will succeed as financial returns are predictable
- D. It prioritises only low-cost projects regardless of their potential long-term value

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What is the **main** purpose of the 8D problem-solving methodology?

- A. To assign responsibility for issues to specific individuals and departments
- B. To encourage rapid, isolated fixes for an immediate resolution
- C. To ensure that all corrective actions focus on financial savings
- D. To provide a structured approach to identifying and addressing recurring issues

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How does the Is/Is Not model help to prevent incorrect assumptions during problem analysis?

- A. By assuming that all available data is accurate
- B. By ensuring that only 1 possible cause is explored
- C. By relying on historical trends rather than examining present conditions
- D. By systematically separating facts from assumptions based on questioning

Level 4

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