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#### **Questions:**

## 1- What is the risk management plan? What topics requires to address in it?

A risk management plan is a vital document that outlines how risks will be identified, assessed, prioritized, and mitigated in a project or organization. It covers several key topics, including the methodology for risk management, roles and responsibilities, budget and schedule allocation, risk categorization, risk probability and impact assessment, risk register and documentation, risk response strategies, risk monitoring and control processes, communication and reporting, contingency and fallback plans, and lessons learned. The plan provides a roadmap for proactive risk management, ensuring that risks are effectively managed to minimize their impact on project objectives or organizational goals.

# 2- Explain the category of risk: market, financial, technology, people, and structure or process.

Risk management addresses various categories of risks to ensure comprehensive coverage. These categories include market risk, financial risk, technology risk, people risk, and structure/process risk. Market risk involves assessing factors such as market acceptance and competitiveness. Financial risk pertains to the impact on financial resources and considerations like project affordability and cost overruns. Technology risk focuses on the feasibility and complexity of technology implementation. People risk involves evaluating the availability of skilled resources and support from senior management. Structure/process risk deals with potential challenges arising from changes to organizational structure or processes. It's important to tailor risk management approaches to specific project or organizational contexts.

# 3- What is the risk breakdown structure? Give an example of it?

A risk breakdown structure (RBS) is a hierarchical tool used in project management to categorize and address potential risks. It helps project teams systematically identify and manage risks by organizing them into specific categories. For example, in a construction project, the RBS may include categories like external risks (weather, regulations), project management risks (scope, schedule), technical risks (design, construction), stakeholder risks (clients, suppliers), legal and contractual risks, and financial risks. By breaking down risks into categories, the RBS provides a structured framework for understanding and mitigating potential threats throughout the project lifecycle. It assists project teams in effectively navigating uncertainties and ensuring successful risk management.

4- What is risk identification? Explain are the tools and techniques of it such as Brainstorming, The Delphi Technique, Interviewing, SWOT analysis.

Risk identification is a critical process that involves systematically exploring potential risks. Effective tools and techniques, such as brainstorming, the Delphi Technique, interviewing, and SWOT analysis, aid in this process. Brainstorming encourages idea generation from a group of stakeholders. The Delphi Technique gathers expert opinions through questionnaires to achieve consensus. Interviews provide direct insights from relevant individuals. SWOT analysis considers internal strengths, weaknesses, external opportunities, and threats. By employing these methods, organizations can identify and document risks comprehensively and proactively.

## 5- What is a risk register? What are the contents of it? Give examples of it?

A risk register is a valuable tool used in project management to identify and manage risks. It serves as a centralized record containing key information about identified risks and their potential impact on the project. A typical risk register includes details such as risk descriptions, categories, probability and impact assessments, assigned risk owners, and planned response strategies. For example, if there is a risk of equipment failure, the risk register would outline the likelihood and potential consequences of such an event occurring, as well as the actions to mitigate the risk, such as regular maintenance and backup equipment arrangements. The risk register is regularly reviewed and updated to ensure effective risk monitoring and control throughout the project lifecycle.

6- What is qualitative risk analysis? Explain the tools and techniques included in it such as probability/impact matrixes, the top ten risk item tracking, and expert judgment.

Qualitative risk analysis is an essential part of project risk management that involves assessing risks based on their subjective qualities. It focuses on understanding the potential impact and likelihood of risks to prioritize and plan for appropriate risk responses. Several tools and techniques are used in qualitative risk analysis. The probability/impact matrix is a visual representation that helps assess the relative probability and impact of risks, enabling prioritization. The top ten risk item tracking involves identifying and monitoring the most critical risks to keep them in focus throughout the project. Lastly, expert judgment involves seeking insights from experienced individuals or subject matter experts to assess risks and provide recommendations. By employing these techniques, project teams can gain a qualitative understanding of risks and make informed decisions for effective risk management.

7- What is quantitative risk analysis? Explain the main technique in it such as decision tree analysis, simulation, and sensitivity analysis.

Quantitative risk analysis is a valuable technique used to assess risks in a project using numerical data. It involves assigning numerical values to risks, probabilities, and potential consequences to provide an objective understanding of their potential impact. Decision tree analysis, simulation, and sensitivity analysis are commonly employed in quantitative risk analysis. Decision tree analysis helps evaluate decision alternatives and their outcomes, aiding in selecting the best course of action. Simulation utilizes models to simulate project behavior under different scenarios, providing a range of possible outcomes and their probabilities. Sensitivity analysis examines how changes in variables affect project outcomes. These techniques enhance decision-making by providing objective data on risk exposure, probabilities, and impacts, enabling better risk response planning and resource allocation.

8- What is risk response planning? Explain the main response strategies for negative risks such as risk avoidance, risk acceptance, risk transference, risk mitigation. Explain the response strategies for positive risks such as risk exploitation, risk sharing, risk enhancement, risk acceptance.

Risk response planning involves developing strategies to address identified risks in a project or organization. For negative risks, there are several main response strategies. Risk avoidance entails taking actions to eliminate or steer clear of the risk altogether. Risk acceptance involves acknowledging the risk but choosing not to take specific actions to mitigate it. Risk transference involves shifting the responsibility for managing the risk to another party through contracts or insurance. Risk mitigation focuses on reducing the probability or impact of a risk through proactive measures. In the case of positive risks, such as opportunities, the strategies differ. Risk exploitation involves actively pursuing and maximizing the benefits of the opportunity. Risk sharing involves collaborating with others to distribute the benefits and responsibilities. Risk enhancement aims to increase the likelihood and impact of the positive risk. Risk acceptance entails acknowledging the opportunity but deciding not to take further action. The selection of response strategies depends on the specific circumstances and objectives, and a combination of strategies may be employed.

9- What is risk monitoring and control? Give examples of the main outputs of it such as requested changes, recommended corrective and preventive actions, updates to the risk register, project management plan, and organizational process assets.

Risk monitoring and control is a critical process in project management that involves continuously tracking and evaluating identified risks to ensure they are effectively managed. Through regular monitoring, assessment, and control of risks, project teams can minimize their impact and maximize project success. This process generates important outputs, such as requested changes, which may involve adjustments to project plans, schedules, resources, or budgets to address identified risks. Additionally, recommended corrective and preventive actions are proposed to mitigate existing risks and prevent potential risks from occurring. The risk register, a comprehensive document capturing all identified risks and their response plans, is updated to reflect the current risk status. Updates to the project management plan may also be necessary, aligning it with risk-related changes. Furthermore, insights and lessons from risk monitoring and control are integrated into organizational process assets, improving future risk management practices and enhancing the overall knowledge base. Effective risk monitoring and control enable project teams to proactively respond to changes, optimize opportunities, and ensure project success.