1. **What are the five major processes associated with every project? These are the same as the five Process Groups according to the PMBOK.**

- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

2. **Define risk and define opportunity.**

A risk is an uncertain event that, if it occurs, has a positive or negative effect on one or more project objectives. An opportunity is a positive risk.

3. **List 4 different sources of risks.**

- Schedule
- Cost
- Quality
- Scope
- Resources
- Customer satisfaction

4. **What is the Risk Register? What is included in the Risk Register?**

- The risk register is a document in which the results of risk analysis and risk response planning are recorded and include
  - List of identified risks
    - The identified risks are described in as much detail as is reasonable.
  - A structure for describing risks using risk statements may be applied, for example, EVENT may occur causing IMPACT, or If CAUSE exists, EVENT may occur leading to EFFECT
  - In addition to the list of identified risks, the root causes of those risks may become more evident
  - List of potential responses

5. **Define Sensitivity Analysis.**

Sensitivity analysis helps to determine which risks have the most potential impact on the project. It helps to understand how the variations in project’s objectives correlate with variations in different uncertainties
6. **What is expected monetary value and how is it calculated?**

Expected Monetary Value Analysis (EMVA) is a statistical concept that calculates the average outcome when the future includes scenarios that may or may not happen (i.e., analysis under uncertainty). EMV for a project is calculated by multiplying the value of each possible outcome by its probability of occurrence and adding the products together.

7. **List the 4 negative risk response strategies.**

- **Risk avoidance** is a risk response strategy whereby the project team acts to eliminate the threat or protect the project from its impact.
- **Risk transference** is a risk response strategy whereby the project team shifts the impact of a threat to a third party, together with ownership of the response.
- **Risk mitigation** is a risk response strategy whereby the project team acts to reduce the probability of occurrence or impact of a risk.
- **Risk acceptance** is a risk response strategy whereby the project team decides to acknowledge the risk and not take any action unless the risk occurs.

8. **What is a contract?**

A contract represents a legal mutually binding agreement that obligates the seller to provide something of value (e.g., specified products, services, or results) and obligates the buyer to provide monetary or other valuable compensation.

9. **List three special classes of business owners/types that may be eligible for government set-asides.**

- Small business
- Minority owned
- Female owned
- Veteran owned

10. **Describe what a cost plus incentive fee contract is.**

- Cost Plus Incentive Fee (CPIF) Contract
  - The seller reimbursed for all costs in performing work
  - Incentives based on meeting certain incentives metrics including cost, schedule, quality, customer satisfaction
  - If final costs are greater or less than the estimate there may be a formula for sharing in the overruns or underruns

11. **Why do we have bidders conferences?**

Bidders conferences are used to ensure that all prospective sellers have a clear and common understanding of the procurement requirements, and that no bidders receive preferential treatment.
12. List 4 things that might be required during the monitoring of a procurement.

- Cost and status reports
- Frequent reviews to ensure progress
- On-site presence (visits or permanent) to subcontractor site
- Quality reviews
- Periodic progress payments based on schedule or earned value
- Colocation of subcontractor during integration
- Contract changes
- Contract closeout

13. List 4 considerations that need to be taken into account in Project Communications Management.

- Who needs what information, and who is authorized to access that information
- What level of information is needed by different people
- When they will need the information
- Where the information should be stored
- What format the information should be stored in
- How the information can be retrieved
- Whether time zone, language barriers, and cross-cultural considerations need to be taken into account

14. List 3 good communications habits.

- Keep written records, recordings, and minutes of all meetings
- Provide written instructions
- Respond to all your e-mails, messages and other queries from any of the stakeholders
- Be proactive in seeking information from your various stakeholders

15. What is Project Stakeholder Management?

- Project Stakeholder Management includes the processes required for:
  - Identifying all people or organizations impacted by the project
  - Analyzing stakeholder expectations and impact on the project
  - Developing appropriate management strategies for effectively engaging stakeholders in project decisions and execution

16. What are the 5 levels of stakeholder engagement?

- Stakeholder are evaluated on the basis of their level of engagement
  - Unaware
    - Unaware of both the project and the impacts
  - Resistant
    - Aware, but not supportive of the project
  - Neutral
• Aware, but neither supportive nor against the project
• Supportive
  • Aware, and will support the project
• Leading
  • Aware of the project and actively engaged in supporting the project

17. List at least 4 things that the Project Charter includes.

• The Project need
• The project manager name
• The PM’s authority to manage
• The very high level project requirements based on the business case
• High level project milestones
• A top-level summary budget

18. What is the business case and what does it include?

• The business case or similar document describes the necessary information from a business standpoint to determine whether or not the project is worth the required investment.
• The business case is commonly used for decision-making by managers or executives above the project level.
• The business need and the cost-benefit analysis are contained in the business case to justify and establish boundaries for the project.

19. What is each element of the lowest level of hierarchy displayed in the WBS associated with?

The Work Package and a deliverable or set of deliverables.

20. If you develop a product for $4M and sell it for $2M what is the Benefits Cost Ratio?

\[
\frac{2}{4} = 0.5
\]

21. If a company invested $120,000 in a project at a cost of capital of 9% and achieved a profit of $30,000 in the first year then what was the Economic Value Added (EVA)?

\[
30000 - (120000 \times 0.09) = 30000 - 10800 = $19200
\]

22. List the 3 elements of the Project Scope Baseline.

• WBS
• WBS Dictionary
• Project Scope Statement

23. How is an activity different from a WBS element?

Activities describe actions (work) whereas WBS elements describe deliverables.
24. **List 4 attributes of an activity.**

- Activity identifier or code
- Activity name
- Activity description
- Predecessor and successor activities
- Logical relationships
- Leads and lags
- Imposed dates
- Constraints
- Assumptions
- Required resources and skill levels
- Geography or location of performance
- Type of effort

25. **Define what a milestone is.**

A milestone is a significant point or event in a project, program, or portfolio.

26. **Define the terms predecessor activity and successor activity.**

- A predecessor activity is an activity that logically comes before a dependent activity in a schedule
- A successor activity is a dependent activity that logically comes after another activity in a schedule

27. **List and briefly define the 4 types of dependencies (logical relationships) between activities.**

- **Finish-to-start (FS)** is a logical relationship in which a successor activity cannot start until a predecessor activity has finished.
- **Finish-to-finish (FF)** is a logical relationship in which a successor activity cannot finish until a predecessor activity has finished.
- **Start-to-start (SS)** is a logical relationship in which a successor activity cannot start until a predecessor activity has started.
- **Start-to-finish (SF)** is a logical relationship in which a successor activity cannot finish until a predecessor activity has started.

28. **Define what a schedule lead and a schedule lag are.**

A lead is the amount of time whereby a successor activity can be advanced (start early) with respect to completion of a predecessor activity. A lead allows you to get a head start on a predecessor activity.

A lag is the amount of time whereby a successor activity will be delayed in starting relative to a predecessor activity.
29-30. John invests $3400 now, receives 2 yearly payments of $900 and $1200, and a final payment of $2000 in the third year. What is his Net Present Value (NPV) if he uses a 10% interest rate throughout? Make things correct to two-decimal places.

Now: PV = -$3400
Year 1: PV = $900 / 1.10 = $818.18
Year 2: PV = $1200/ 1.10^2 = $991.74
Year 3 (final payment): PV = $2000/1.10^3 = $1502.63
NPV = (818.18+ 991.74 + 1502.63) -$3400 = -$87.45

Formulas – Note: It may or may not be true that all of these formulas are need for the exam.

Benefits Cost Ratio (BCR) = benefits/cost
Economic Value Added (EVA) = (after-tax profit) – (capital invested*cost of capital)
Present Value (PV) = FV/(1 + r)^n  Note – FV is final value
Return On Investment (ROI) = ((benefit –cost)/cost)*100 %