EXAM NOTES IMPT

1. There are IT projects and Non-IT projects

What are the differences? What are some of the things you can tell the difference?

* More diverse than non it projects also known as hardware oriented projects

Interms of Project Risks:

* IT Projects: Risks often involve technology-related challenges, such as software bugs, integration issues, or cybersecurity threats. Agile methodologies help manage risks through frequent reassessment and adaptation.
* Non-IT Projects: Risks can include delays due to weather, regulatory changes, or unexpected site conditions. Risk management in non-IT projects focuses on contingency planning and thorough risk assessments.

1. IT projects has this proper process that we do, why do we need the process? What is so important about the proper process?

* Advantages of using formal project management
  + Better control of
    - Financial resources
    - Physical resources
    - Human resources
  + Improved Customer relations
  + Shorter development times
  + Reduce cost, better productivity
  + Higher quality, increased reliability
  + Higher profit margins
  + Better internal coordination
  + Positive impact on meeting strategic goals
  + Higher working morale

1. PROJECT CHARTER - What is so important about project charter?

* Let rest of organisation know
  + Formally recognises existence of a project providing direction on objectives and management
* Key stakeholders have to sign to acknowledge agreement on the need and intent of project
  + Key output of initiation process
  + Without project charter approval, cannot officially start project

1. PROJECT SPONSOR – Understand the role of the project sponsor

* Provides direction and funding for project
* How top management can help project managers
  + Providing adequate resources
  + Approving unique project needs in a timely manner
  + Getting cooperation from other parts of the organization
  + Mentoring and coaching on leadership issues

1. CHANGE CONTROL BOARD- Understand the role of the change control board. Do they actually help you do this better? Or not? Sometimes they are good, sometimes not so good. “Please read the sentence very carefully”\*

* A committee that manages the change
* Decides whether your change should be done
* Change control board provide guidelines for change request which includes\*
  + Prepare change request
  + Evaluate change request
  + Manage implementation of approved changes

1. WORK BREAKDOWN STRUCTURE – What is the point of this?, Why go through so much trouble for this?

* Grouping of the work that defines total scope of project
  + Foundation document that provides the basis for planning and managing project schedules, costs, resources and changes
* Decomposition
  + Break down into smaller pieces
  + Work package is a task at the lowest level of WBS
* Output of creating WBS
  + Scope Baseline includes the approved project scope statement

1. BASELINES- Cost Baseline/Schedule Baseline/Baseline 1/Baseline 2. What is the purpose of baseline and why it helps everyone

* Baseline is a starting point to be used for future comparison
* It is a reference point
* Approved project management plan Baseline 1
* New approved changes Baseline 2
* If changes not approved stick to previous baseline

1. Deliverables that came up for the project, Why we need to do this? How does it help us?

* Helps guide project execution and control
  + Plans created in other areas are part of project deliverables
  + A deliverable is a measurable outcome to define the success criteria of the project
  + It helps to define scope, success criteria, facilitate communication between project stakeholders, act as milestones, resource planning etc

1. CRITICAL PATH – Why do we use this? What is the reason

* Series of activities that determine the earliest time by which the project can be completed
  + Longest path through network diagram
  + Has the least amount of slack or float
    - The amount of time an activity may be delayed without delaying the next activity or the project finish date
* Calculation
  + Develop good network diagram and add duration estimates for all activities on each path through the network diagram
    - Longest path is the critical path
* Shorten project schedule
  + Add more resources
  + Change scope

1. DURATION AND EFFORT- Calculating man effort and cost vs power. Understand how to calculate and what the different terms mean. Need to be able to differentiate between effort and duration

* Duration
  + Actual amount of time worked on an activity + time elapsed
* Effort
  + No. of work days/hours required to complete a task and does not normally equal duration
  + Could be man-hours, man-days, man-months etc

1. COURSE ESTIMATION FORMULA – It is a simple formula but there is a lot of complexity doing it. What is so difficult doing it and why?

* At the start costing might be far off
* Estimates are done at various stages of projects
  + Should be more accurate as time progresses
* Cost depends on complexity of project, a lot of uncertainty
* Cost estimate tools/techniques
  + Analogous or top-down estimates
    - Use actual cost of previous similar project
  + Bottom-up estimates
    - Estimating individual work items
  + Three-point estimates
    - Estimating most likely, optimistic and pessimistic cost
  + Parametric estimates
    - Use project parameters in a mathematical model to estimate cost(uptime of 99% vs 99.9% vs 99.999%)
* Problems with IT cost estimates
  + Done too quickly
  + Lack estimating experience (always refer to seniors)
  + Biased toward underestimation
  + Management desires accuracy

1. TOTAL COST OF OWNERSHIP(TCO) – Learn to calculate TCO

* TCO = Initial costs + Operating cost + Maintenance costs

1. Want to make sure we split the resources equally for everyone to do in the project. Why do we need to do resource levelling? Why is resource levelling even one thing for us to consider?

* Resolve resource conflicts by delaying tasks
  + Create smooth distribution of resource usage
* Benefits
  + When resources used more consistently, they require less management
  + Enable PMs to use a just-in-time inventory type of policy for using expensive resources
  + Lesser problems for project personnel and accounting department
  + Improve morale

1. BEGINNING TO THE END , (QUALITY MANAGEMENT TOPIC) which shows every step of the project, you are trying to test whether the project should go ahead, testing whether the design is good, trying to test whether the implementation is good.There is testing going on for the entire life cycle of the project

* Software development Life cycle
  + Summarises the entire process of the project from beginning to end
  + Tells you every single stage of the project that is a component of testing
  + Everything that has been over has a testing done
* Waterfall model
  + Well defined
  + Linear stage of system development and support
* Spiral model
  + Software developed using iterative/spiral approach
* Prototype model
  + Develop prototype to clarify user requirements
* Rapid Application development (RAD) model
  + Produce systems quickly without sacrificing quality

1. How does an organisation choose whether to outsource or not to outsource? Procurement, how do they monitor the project? Are they meeting the contracts obligation or just doing what they need to do. Supplier just do what they do then we don’t know whether need the contractual requirements or not. If nobody cares then why bother?

* Why outsource?
  + Access skills and technologies
  + Reduce both fixed and recurrent costs
  + Focus on its own core business
  + Provide flexibility
  + Increase accountability
  + Transfer risk

1. Planning Risk responses
2. 17.) Reporting performance

* - Progress report
* - Status report
* - Forecast
* (Negative risks)
  + Avoidance
  + Acceptance
  + Transference
  + Mitigation
  + Escalation
* (Positive risks)
  + Exploitation
  + Sharing
  + Enhancement
  + Acceptance
  + Escalation