ESE 2020
UPSC ENGINEERING SERVICES EXAMINATION
Preliminary Examination

General Studies and Engineering Aptitude

Basics of Project Management

Comprehensive Theory with Practice Questions and ESE Solved Questions

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Preface

The compilation of this book Basics of Project Management was motivated by the desire to provide a concise book which can benefit students to understand the concepts of this specific topic of General Studies and Engineering Aptitude section.

This textbook provides all the requirements of the students, i.e. comprehensive coverage of theory, fundamental concepts and objective type questions articulated in a lucid language. The concise presentation will help the readers grasp the theory of this subject with clarity and apply them with ease to solve objective questions quickly. This book not only covers the syllabus of ESE in a holistic manner but is also useful for many other competitive examinations. All the topics are given the emphasis they deserve so that mere reading of the book clarifies all the concepts.

We have put in our sincere efforts to present detailed theory and MCQs without compromising the accuracy of answers. For the interest of the readers, some notes, do you know and interesting facts are given in the comprehensive manner. At the end of each chapter, sets of practice question are given with their keys and detailed explanations, that will allow the readers to evaluate their understanding of the topics and sharpen their question solving skills.

Our team has made their best efforts to remove all possible errors of any kind. Nonetheless, we would highly appreciate and acknowledge if you find and share with us any printing and conceptual errors.

It is impossible to thank all the individuals who helped us, but we would like to sincerely thank all the authors, editors and reviewers for putting in their efforts to publish this book.

With Best Wishes

B. Singh

CMD, MADE EASY Group
# Basics of Project Management

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2.1 INTRODUCTION

- Once the project has been selected, the next step is for senior management to choose a Project Manager (PM).
- It is the Project Manager's job to make sure that project is properly planned, implemented and completed. PMs are sometimes chosen prior to the project selection also.
- The PM and Senior Manager call a meeting of people who are competent to begin planning.
- Organisational structure is concerned with the allocation of task and establishment of authority-responsibility relationship between the members of the organisation.

\[ \frac{N(N-1)}{2} \]

- If there are \( N \) participating entities in any organisation then maximum number of communication channels possible is given by \( \frac{N(N-1)}{2} \).

2.1.1 Attributes/Qualities of a Good Project Manager

An effective project manager is one who should have the following skills/capacities:

- Planning and organisational skills
- Personnel management skills
- Communication skills
- Ability to solve problems in their totality
- High energy levels
- Ambition of achievement
- Ability to take decisions
- Understanding the views of project team members and having a sympathetic attitude towards them
- Ability to develop alternative actions quickly
• Knowledge of project management methods and tools
• Ability to make self-evaluation
• Effective time management
• Capacity to relate current events to the project/project management
• Ability to handle project management software tools/packages
• Initiative and risk taking ability
• Familiarity with the organisation
• Conflict resolving capacity
• Team building skills
• Resource allocation skills
• Entrepreneurial skills
• Skills of negotiation

Power and its Use

Definition of Power: In political science or politics or business, Power can be defined as the ability of an individual to influence the actions of others to achieve a certain established goal. Legitimate power is called “authority” in organizations and is usually used by people in higher levels on their subordinates or team members to achieve the goals of the organization. The proper use of power does not involve the use of force or the threat of force (coercion).

Types of Power

There are five basic types of power:

• Legitimate power, Formal power or Positional power: This is the power invested in a person due to their position within the company or project. It is usually associated with the title, or chair, or uniform of the person and their duties and functions in the company. E.g.: the owner of the company.

• Expert power: This is the power gained by years of work experience or gaining of advanced educational qualifications in a particular area of work. Such people are called SMEs or subject matter experts. Their ability to understand and analyze problems and propose practical solutions to the problem gives them this power. This type of power is usually specific and limited to the area of expertise possessed by the SME. E.g.: Research scientists working at ISRO.

• Referent power: This is power gained by using interpersonal skills and personal charisma to attract and retain the loyalty of others and get them to think like you are thinking. E.g.: Thousands of people joined Mahatma Gandhi’s Non Violent Movement because they were inspired by his personal traits and way of thinking and living.

• Reward power: This is the best kind of power to use if properly administered. Here a person uses power for the benefit of their employees or team members and gives them bonuses, rewards, new responsibilities, promotions, etc. for doing their job well.

• Penalty or Coercive power: This is the worst kind to use because here power is being used to penalize or deny rewards to employees for non-performance or disobedience. Though sometimes necessary, prolonged or continued use of only this kind of power results in a very negative work environment in the company.

Apart from these main types, other minor types of power that are used are: Professional power, Planning power, Risk power, Precedent power, ethical power, moral power, etc.

NOTE: Expert & Reward are best forms of power according to PMI. The worst is penalty.
Additional topics in Project Management

**Strategy and types:** Strategy can be defined as a high plan which includes contingency planning or options that accommodate for uncertainty in the original plan. It basically involves two main steps: Formulation or strategic thinking which looks at all options related to the situation at hand and picks the best one keeping in mind options required in uncertain situations. Implementation or execution is acting out the plan that has been selected for action.

As far as organizations are concerned, there are 3 types of strategy:

- **Business strategy** this defines the purpose and plan for the organization as a whole
- **Operational strategy** this defines what must be done on a daily basis to achieve the business goals
- **Transformation strategy** this involves radical and drastic changes to the business and operations strategies when the company decides to change its business strategy substantially

### 2.1.2 Role of the Project Manager

**Appointment:** The project manager is appointed by the project sponsor as the single point of responsibility for completing the project as outlined in the project charter.

**Management Skill:** The project manager will require a range of management skills to plan and control all aspects to the project.

**Leadership Skills:** The project manager will require appropriate leadership skills and persuasive powers to lead, influence and negotiate with the project team, the contractors, the suppliers, the consultants and the stakeholders.

**Project Team PMO:** The project manager is responsible for selecting and leading the project team.

**Project Organization Structure:** The project manager is responsible for setting up the temporary project organisation structure to integrate and interlink the resource provides (functional departments and contractors), suppliers and consultants.

**Stakeholder Management:** The project manager is responsible for identifying the project stakeholders and interested parties to determine and influence their needs and expectations. This process also engages the stakeholders to involve them in the decision making process.

**Project Plan:** The project manager is responsible for developing the project plan, which integrates all the individuals plans. The integration process has to make certain trade-offs and compromises between conflicting parameters so that the baseline plan can converge on an optimum arrangement.

**Planning and Control System:** the project manager is responsible for setting up and managing the planning and control system to issue instructions, monitor progress, review performance and take corrective action where necessary.

**Scope Management:** The project manager is responsible for identifying and defining the complete scope of work. The breakdown structure might use the PBS to identify the deliverables and the WBS to identify the work package to make the deliverables.

**Scope Change Management:** The project manager is responsible for managing the scope change process to assess the impact on the project's objectives and control any unnecessary scope creep.

**Build-Method:** The project manager is responsible for developing an efficient and feasible build method to make the project.

**Execution Strategy:** The project manager is responsible for developing the executing strategy, which makes the 'make or buy' decision and selects the best option for the project.
Procurement Management: The project manager is responsible for setting up the procurement management system to procure all the required materials and components at the best price and at the right time. This process includes expending to make the procurement happen.

Resource Management: The project manager is responsible for developing the resource histogram and analysing the resource loading.

2.1.3 Conflicts Management by Project Manager

<table>
<thead>
<tr>
<th>Old View</th>
<th>New View</th>
</tr>
</thead>
<tbody>
<tr>
<td>is inevitable</td>
<td>is necessary</td>
</tr>
<tr>
<td>is negative</td>
<td>is beneficial</td>
</tr>
<tr>
<td>should be avoided</td>
<td>allows team to grow</td>
</tr>
<tr>
<td>Best resolved by avoidance or upper management intervention</td>
<td>Best resolved by the team member &amp; near managers</td>
</tr>
</tbody>
</table>

Causes of Conflicts:
1. Schedule
2. Resources
3. Technical opinion
4. Administrative overhead
5. Cost
6. Personality
7. Project Priority

Conflicts Resolution:
1. Confrontation – Facing the issue head to head from front.
2. Collaboration – In this two parties come to some viewpoint.
3. Compromise – Each side gives up something & everyone is dissatisfied, its a loose - loose situation.
4. Forcing – One party is forced by use of power.
5. Smoothing – Issue is not addressed directly, smoothen the conflicts by various ways such as agreement.
6. Withdrawing – Issue is avoided completely.

PMI declares confronting to be best followed by collaboration. The worst resolution technique is forcing any party.

2.1.4 The PMO

PMO is project management office which centralises the management of projects of the organisation.

Role of PMO:
1. Providing various methodologies & polices for project management.
2. Providing guidance and training to project related individuals.
3. A resources pool of project managers for various organisational initiatives.
4. Manages dependencies between projects, progress, or portfolios.
5. Functions as one of the stakeholder.
6. A centralised conduct for project.
2.2 TYPE OF PROJECT ORGANISATIONS

Broadly speaking, organisational structure can be of three types. They are:
1. Functional organisation
2. Product organisation and
3. Matrix organisation

2.2.1 Functional Organisation/Traditional/Classical Organisation

- Functional organisation is the most basic and logical form of organisational structure. Functional organisation brings together in one department all those who are engaged in one activity or more related activities.
- It is most stable form of organisation.
- It has long line of communication and long chain of command.
- Project related issues are resolved by the concern functional head.

Example 1.

![Diagram of Functional Organisation](image)

Fig. (a) Functional organisation

Example 2.

![Diagram of Functional Organisation Structure](image)

Fig. (b) Functional Organisation Structure

- This type of organisational structure is suitable for smaller organisations that offer a limited line of products. As the organisation grows by expanding its product line or when the organisation expands geographically, the weakness of functional organisational structure will become apparent since controlling will become ineffective. Another disadvantage of functional organisation is that it is difficult to fix accountability and difficult to judge the performance of the members.
Advantages:
- Better technical control is possible.
  - Specialists can be grouped to share knowledge and responsibility.
  - Personnel can be used on many different projects.
  - All projects will benefit from the most advanced technology (better utilization of scarce personnel).
- Flexibility in the use of manpower.
- A broad manpower base to work with/greater division of labour.
- Continuity in the functional disciplines; policies, procedures, and lines of responsibility are easily defined and understandable.
- Admits mass production activities within established specifications.
- Good control over personnel, since each employee has one and only one person to report to.
- Communication channels are vertical and well established.
- Quick reaction capability exists, but may be dependent upon the priorities of the functional managers.

Disadvantages:
- No one individual is directly responsible for the total project (i.e., no formal authority; committee solutions).
- Does not provide the project-oriented emphasis necessary to accomplish the project tasks.
- Coordination becomes complex, and additional lead time is required for approval of decisions.
- Decisions normally favour the strongest functional groups.
- No customer focal point.
- Response to customer needs is slow.
- Difficulty in pinpointing responsibility; this is the result of little or no direct project reporting, very little project-oriented planning, and no project authority.
- Motivation and innovation are decreased.
- Ideas tend to be functionally oriented with little regard for ongoing projects.

2.2.2 Product Organisation / Pure Project Organisation
- The major advantage of this organisational flow is that one individual, the program manager, maintains complete line authority over the entire project.

Example:

![Diagram of Product Organisation]

Fig. Product organisation

- In pure product organisations, long lead time becomes a thing of the past.
- In pure functional (traditional) structures, technologies are well developed, but project schedules often fall behind. In the pure project structure, the fast reaction time keeps activities on schedule, but
technology suffers because without strong functional groups, which maintain interactive technical communication, the company's outlook for meeting the competition may be severely hampered. The engineering department for one project might not communicate with its counterpart on other project, resulting in duplication of efforts.

**Advantages:**
- Provides complete line authority over the project (i.e., strong control through a single project authority).
- Participants work directly for the project manager. Unprofitable product lines are easily identified and can be eliminated.
- Strong communications channels.
- Staffs can maintain expertise on a given project without sharing key personnel.
- Very rapid reaction time is provided.
- Personnel demonstrate loyalty to the project; better morale with product identification.
- A focal point develops for out-of-company customer relations.
- Flexibility in determining time (schedule), cost, and performance trade-offs.
- Interface management becomes easier as unit size is decreased.
- Upper-level management maintains more free time for executive decision-making.

**Disadvantages:**
- Cost of maintaining this form in a multi-product company would be prohibitive due to duplication of effort, facilities, and personnel; inefficient usage.
- A tendency to retain personnel on a project long after they are needed. Upper-level management must balance workloads as projects start up and are phased out.
- Technology suffers because, without strong functional groups, outlook of the future to improve company's capabilities for new programs would be hampered (i.e., no perpetuation of technology)
- Control of functional (i.e., organisational) specialists requires top-level coordination.
- Lack of opportunities for technical interchange between projects.
- Lack of career continuity and opportunities for project personnel.
- Resources sharing is minimal.

### 2.2.3 Matrix Organisation

- The matrix organisational form is an attempt to combine the advantages of the functional structure and the product organisational structure. This form is ideally suited for companies, such as construction, that are “project-driven”.
- Each project manager reports directly to the vice president and general manager. Since each project represents a potential profit center, the power and authority used by the project manager come directly from the general manager. The project manager has total responsibility and accountability for project success.
- Project management is a “coordinative” function, whereas matrix management is a collaborative function division of project management.

**Ground rules for matrix development:**
- Participants must spend full time on the project.
- Horizontal as well as vertical channels must exist for making commitments.
- There must be quick and effective methods for conflict resolution.
Example 1.

Fig. (a) Matrix organisation

Example 2.

Fig. (b) Matrix Organisation Structure

- There must be good communication channels and free access between managers.
- All managers must have input into the planning process.
- Both horizontally and vertically oriented managers must be willing to negotiate for resources.
- The horizontal line must be permitted to operate as a separate entity except for administrative purpose.
- No two working environments are the same, and therefore, no two companies will have the same matrix design.

Advantages:
- The maximum project control (through the line managers) over all resources, including cost and personnel.
• Policies and procedures can be set up independently for each project, provided that they do not contradict company policies and procedures.
• The project manager has the authority to commit company resources, provided that scheduling does not cause conflicts with other projects.
• Rapid responses are possible to changes, conflict resolution, and project needs (as technology or schedule).
• The functional organisations exist primarily as support for the project.
• Each person has a “home” after project completion. People are susceptible to motivation and end-item identification. Each person can be shown a career path.
• Because key people can be shared, the program cost is minimized. People can work on a variety of problems; that is, better people control is possible.
• A strong technical base can be developed, and much more time can be devoted to complex problem-solving. Knowledge is available for all projects on an equal basis.
• Conflicts are minimal, and those requiring hierarchical referrals are more easily resolved.
• There is a better balance among time, cost and performance.
• Rapid development of specialists and generalists occurs.
• Authority and responsibility are shared.
• Stress is distributed among the team (and the functional manager).

Disadvantages:
• Multidimensional information flow.
• Multidimensional work flow.
• Dual reporting.
• Continuously changing priorities.
• Management goals different from project goals.
• Potential for continuous conflict and conflict resolution.
• Difficulty in monitoring and control.
• Company-wide, the organisational structure is not cost-effective because more people than necessary are required, primarily administrative.
• Each project organisation operates independently. Care must be taken that duplication of efforts does not occur.
• More effort and time are needed initially to define policies and procedures, compared to traditional form.
• Functional managers may be biased according to their own set of priorities.
• Balance of power between functional and project organisations must be watched.
• Balance of time, cost and performance must be monitored.
• Although rapid response time is possible for individual problem resolution, the reaction time can become quite slow.
• Employees and managers are more susceptible to role ambiguity than a traditional form.
• Conflicts and their resolution may be a continuous process (possibly requiring support of an organisational development specialist).
• People do not feel that they have any control over their own destiny when continuously reporting to multiple managers.
2.2.4 The Strong, Weak or Balanced Matrix

- Matrix structures can be strong, weak, or balanced. The strength of the matrix is based upon who has more influence over the daily performance of the workers: project manager or line managers. If the project manager has more influence over the worker, then the matrix structure functions as a strong matrix as seen through the eyes of the project manager. If the line manager has more influence than does the project manager, then the organisation functions as a weak matrix as seen by the project manager.

- The most common differentiator between a strong and weak matrix is where the command of technology resides: project manager or line managers. If the project manager has a command of technology and a recognized by the line managers and the workers as being a technical expert, then the line managers will allow the workers to take technical direction from the project manager. This will result in a strong matrix structure. Workers will seek solutions to their problems from the project manager first and the line managers second. The reverse is true for a weak matrix. Project managers in a strong matrix generally possess more authority than in a weak matrix.

- When a company desires a strong matrix, the project manager is generally promoted from within the organisation and may have had assignments in several line functions throughout the organisation. In a weak matrix, the company may hire from outside the organisation but should at least require that the person selected understand the technology and the industry.

- In weak matrix project managers authority is considerably reduced and it comes close to the functional structure of organisation.

2.3 PROJECT ORGANISATION STRUCTURE

![Project Organisation Structure Diagram](Image)

*Fig. Project Organisation Structure*
ESE Prelims Questions

Q.1 Which term refers to a single person having authority to oversee all aspects of a product's production scheduling, inventory, dislocation and sales?
(a) Project management
(b) Product management
(c) Commercial management
(d) Venture management

Ans. (b) [ESE-2019]

Q.2 Who is responsible for establishing, documenting and maintaining procedures for post-production handling functions such as storage, packaging and delivery?
(a) Production Manager
(b) Marketing Manager
(c) Vendor
(d) Quality Supervisor

Ans. (c) [ESE-2019]

Objective Brain Teasers

Q.1 Match List-I with List-II and select the correct answer using the codes given below the lists:

List-I
A. Translates policy into a method of achieving the objective set out
B. Consists of defining the responsibilities of employees
C. Transmits all the information to the supervising staff
D. The organisational setup is aided to operate efficiently with flow of information, decisions and results in all directions

List-II
1. Co-ordinating
2. Planning
3. Organizing
4. Directing

Codes:

A B C D
(a) 3 2 1 4
(b) 2 3 1 4
(c) 3 2 4 1
(d) 2 3 4 1

Q.2 Match List-I (Indications of terms) with List-II (Terms) and select the correct answer using the codes given below the lists:

List-I
A. Used for recording instructions given by the Executive Engineer at site
B. Used widely for civil engineering construction

List-II
1. Co-ordination
2. Unity of command
3. Line organisation
4. Site order book

Codes:

A B C D
(a) 4 3 2 1
(b) 4 2 3 1
(c) 2 4 1 3
(d) 4 1 2 3

Q.3 The "halo effect" refers to the tendency to:
(a) promote from within
(b) hire the best
(c) move people into project management because they are good in their technical fields
(d) move people into project management because they have had project management training

Q.4 The overall co-ordinating person in a construction team is
(a) The Owner
(b) The Architect
(c) The Project Manager
(d) The Contractor
Q.5 The ability of a Project Manager or influence the costs on a project:
(a) Increases with time
(b) Remains the same over time
(c) Depends on the availability of resources and funds
(d) Decreases over time

Q.6 A type of organization in which the project manager has little formal authority and basically acts as a staff assistant to an executive who is ultimately responsible for the project is called:
(a) Balanced matrix
(b) Weak matrix
(c) Projectized
(d) Strong matrix

Q.7 Who is ultimately responsible for quality management on the project?
(a) Project engineer
(b) Project manager
(c) Quality manager
(d) Team member

Q.8 A project manager is trying to complete a software development project, but cannot get enough attention for the project. Resources are focused on completing process-related work and the project manager has little authority to properly assign resources. What form of organization must the project manager be working in?
(a) Functional
(b) Matrix
(c) Expediter
(d) Coordinator

Q.9 What are the major advantages of the functional type of organization?
(a) Single point of contact for the customer
(b) Stable organizational structure
(c) Project orientation
(d) Multifunctional teams are easy to form

Q.10 In which organization form would the project manager possess the greatest amount of authority?
(a) Classical/traditional
(b) Projectized
(c) Strong matrix
(d) Weak matrix

Q.11 In which organizational form do project managers have the greatest likelihood of possessing reward power and have a wage-and-salary administration function? (The project and line manager are the same person.)
(a) Classical/traditional
(b) Projectized
(c) Strong matrix
(d) Weak matrix

Q.12 In which type of matrix structure would a project manager most likely have a command of technology?
(a) Strong matrix
(b) Balanced matrix
(c) Weak matrix
(d) Cross-cultural matrix

Q.13 During project staffing, the primary role of line management is
(a) Approving the selection of the project manager
(b) Approving the selection of assistant project managers
(c) Assigning functional resources based upon who is available
(d) Assigning functional resources based upon availability and the skills set needed

Q.14 A project manager joining a new project should have following qualities
1. Leadership skill
2. Political knowledge
3. Communication skill
4. Project team confidence
(a) All of the above
(b) 1, 2 and 3
(c) 1, 3 and 4
(d) 1 and 2 only

Q.15 An organisation where decision making authority is not with project manager is called
(a) Strong matrix
(b) Product matrix
(c) Weak matrix
(d) Balanced matrix

Q.16 The best forms of power of PM according to PMI are:
1. Expert
2. Legitimate
3. Reward
4. Penalty
(a) All of the above
(b) 1 and 2
(c) 1 and 3
(d) 3 and 4

Q.17 You are working in an organisation which is having different department for different work function each headed by a manager. Such that total production of any project requires consents of these various department.
Which type of organisation it is?
(a) Projectized  (b) work
(c) Functional   (d) matrix

Q.18 Who is responsible for training of team members in a project?
(a) Project manager
(b) stakeholders
(c) they themselves
(d) project management office

Q.19 Project manager controls the project budget and having a full time role. Which type of organisation is it?
(a) weak organisation
(b) balanced organisation
(c) functional organisation
(d) strong organisation

Q.20 Various stages followed in the formation of a project team in proper order are
1. Norming  2. Storming
3. Forming   4. Adjourning
5. Performing
(a) 1, 2, 3, 4, 5   (b) 3, 1, 2, 5, 4
(c) 3, 2, 1, 5, 4   (d) 1, 3, 2, 5, 4

Q.21 In a project management the project performance appraisal addresses the performance of the
(a) Team as a whole
(b) Individuals on the team
(c) Project manager
(d) All stakeholders

Q.22 The best way to resolve a conflicts in a project is by
(a) collaborative  (b) confronting
(c) compromising   (d) smoothing

Q.23 Which of the following skills of the project manager helps in conflict resolution?
1. Leadership
2. Technical
3. Influencing
4. Effective decision making
(a) All of the above
(b) 1, 2 and 3
(c) 1, 3 and 4   (d) 1 and 3 only

Q.24 Which of the following type of organisation is more prone to the conflicts?
(a) strong matrix
(b) product organisation
(c) balanced organisation
(d) weak matrix

Q.25 What are triple constraint of a project?
(a) Time – quality – cost
(b) Cost – scope – time
(c) Time – quality – scope
(d) Scope – quality – cost

Q.26 What are the diamond constraints of a project?
(a) Time – cost – quality – expectation
(b) Time – cost – scope – quality
(c) Scope – cost – quality – expectation
(d) Scope – time – quality – expectation

Q.27 Which of the following may give rise to a conflict in a project?
1. Conflict over schedule of project
2. Conflict over resource sharing
3. Conflict over leadership roles
4. Conflict due to presentability of one’s own
(a) All of the above
(b) 1, 2 and 3
(c) 2, 3 and 4   (d) 2 and 3 only

Q.28 At what stage of team formation, the team can work effectively even without a leader?
(a) Forming   (b) Storming
(c) Norming   (d) Performing

Q.29 Which of the below is correct with regard of project management?
(i) Project manager has max power over project in product organisation.
(ii) In weak matrix project manager has most control over funds.
(iii) In function project organisation people don’t generally loose their job after project completion
(a) All of the above
(b) (i) only
(c) (i) & (iii)   (d) (ii) & (iii)

Q.30 In project management type of matrix organisation are:
1. Functional
2. Weak
3. Balanced
4. Strong
5. Product
(a) All of the above
(b) 2, 3 and 4
(c) 1, 2, 4 and 5   (d) 2, 4 and 5
Q.31 The method used to collect information to use through all phases of the project life cycle is called:
(a) Responsibility matrix
(b) Organization breakdown structure
(c) Work breakdown structure
(d) Priority matrix

Q.32 Effective project team should have?
A. Clear sense of mission
B. Enough Cash
C. Cohesiveness
D. Trust
(a) A, B, C  (b) A, C, D  (c) All of the above  (d) A only

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**Explanations**

3. (c)  
Flaw in Expert Judgment when people good in certain areas are deemed as good in all areas.

14. (b)  
A project manager might be new to a project team and a complete stranger. So it is not necessary that team will have confidence in project manager.

18. (d)  
In strong matrix authority and involvement of project manager is very high.

19. (d)  
Forming – Storming – Norming – Performing – Adjourning

24. (d)  
In weak matrix authority of project manager is less & several other functional manager have authorities increasing chances of conflict.

25. (b)

26. (b)

28. (d)  
At performing stage the team is strategically aware of the work and situations around. Team understand their goals clearly and they can fulfill their goals even without a leader.

31. (c)  
The work breakdown structure approach allows us to visually see the work that is needed in order to complete a project. The bottom line is by using a work breakdown structure it reduces the number of surprises and improves the ability to better estimate future projects. The work breakdown structure can be used to effectively decompose the project scope, to improve estimating, to better control the project execution and to more accurately verify project completion. In addition, using a work breakdown structure approach summarizes project information to improve the opportunity for use of historical information, which, can aid in both speed and accuracy of future projects. The work breakdown structure is a reportable process that can be used as a template for future projects.