

বাংলাদেশ ইউনিভার্সিটি অব প্রফেশনালস্

সেকশন/গ্রুপ... A (Section-A)



ইনভিজিলেটরের স্বাক্ষর

মোট পৃষ্ঠা সংখ্যা.....10.....টি

BSc. in CSE-17, Final Examination, Fall, Dec-20 পরীক্ষা(Examination), 20 20

বিষয় (Subj): Engineering Management পত্র/কোর্স নং (Paper/Course No): CSE-417

পত্র/কোর্সের নাম (Paper/Course Name): CSE-17 কেন্দ্র (Center): MIST

রেজিঃ নম্বর (Regn No): 131401170018 শিক্ষাবর্ষ (Session): 2019-2020

রোল নম্বর (Roll No): 201714018 তারিখ (Date): 09-12-2020

INSTRUCTIONS FOR EXAMINEE

পরীক্ষক কর্তৃক পূরণীয়

- Examinees are forbidden to write their names either on outer cover page or anywhere of the answer scripts. In case of violation, the answer script will not be evaluated.
- Examinees must mention their roll and registration number along with session on the outer cover page of the answer scripts clearly. Otherwise, answer scripts may not be evaluated.
- Students will write his examination roll number on the top left corner and section-A/B on the top right corner of each page. All pages must be numbered chronologically at the bottom center in x of y format. (for example: 1 of 21)
- All rough works should be done in the same paper used as answer scripts. Answer scripts should be submitted intact. Papers used for rough work should be pen through by the examinees.
- In no case, an examinee will be allowed to start the examination half an hour after the commencement of examination.
- Examinees must abide by the instructions of chief invigilator if there are no definite instructions on any subject/matter.
- No examinee will be allowed to leave the examination session until an hour has elapsed from the commencement of examination.
- Legal action will be taken against the examinees those are caught for copying and found guilty for any breach of discipline as per rule.

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নিরীক্ষকের স্বাক্ষর

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INSTRUCTIONS FOR EXAMINEE

9. Smoking is strictly prohibited during examination.
10. The Camera of the examinee MUST always be ON during the examination and answer script submission. If Camera is OFF then that online examination will be treated as CANCELLED.
11. The answer scripts submitted beyond specified time will be treated as CANCELLED.
12. The examinee has to share his/her computer screen to the invigilator throughout the examination time.
13. The focus of the camera should be such that the invigilator(s) can see the script and examinee with his/her surroundings.
14. The examinee will send his/her scanned examination script in PDF format to the following e-mail addresses:
 - (a) e-mail address of subject invigilator/examiner.
 - (b) Central Database Scheme (coursecode@mist.ac.bd)
Example: EECE433@mist.ac.bd
15. The examinee has to preserve the original answer script of every examination and be ready to submit whenever asked for.
16. Answer script should be the A4 size papers with a cover page provided by Department. Examinee has to fill up his/her necessary details on the cover page. Section A and section B must be clearly marked on the cover page like. Section A or Section B
17. Examination duration for each subject will be two hours (section-A for one hour + section B for One hour). In between students will get 20 minutes time to submit the answer script of section A and 10 minutes time to issue the question for section B. After completion of 01 hour examination time for section B, students will get 20 minutes to submit the answer script of section B.
18. After completion of written examination (online/physical), viva will be conducted by the respective faculty of that subject.

Section-AAns. to the ques. no.-01(a)

Engineering Management: Engineering Management is a dynamic process, that helps to get things done, through and with the efforts of people. Engineering management is the application of management to the practice of Engineering.

Applications of Engineering management are;

- ① Pre-production Planning.
- ② Production Planning and control.
- ③ Inventory Management and Stock keeping.
- ④ Total Quality Management.

Engineering Management not only helps to manage production planning and control but also helps in the human behaviour and inter relations of an organization. These are the applications of Engineering Management.

Ans. to the ques. no. - 01(b)

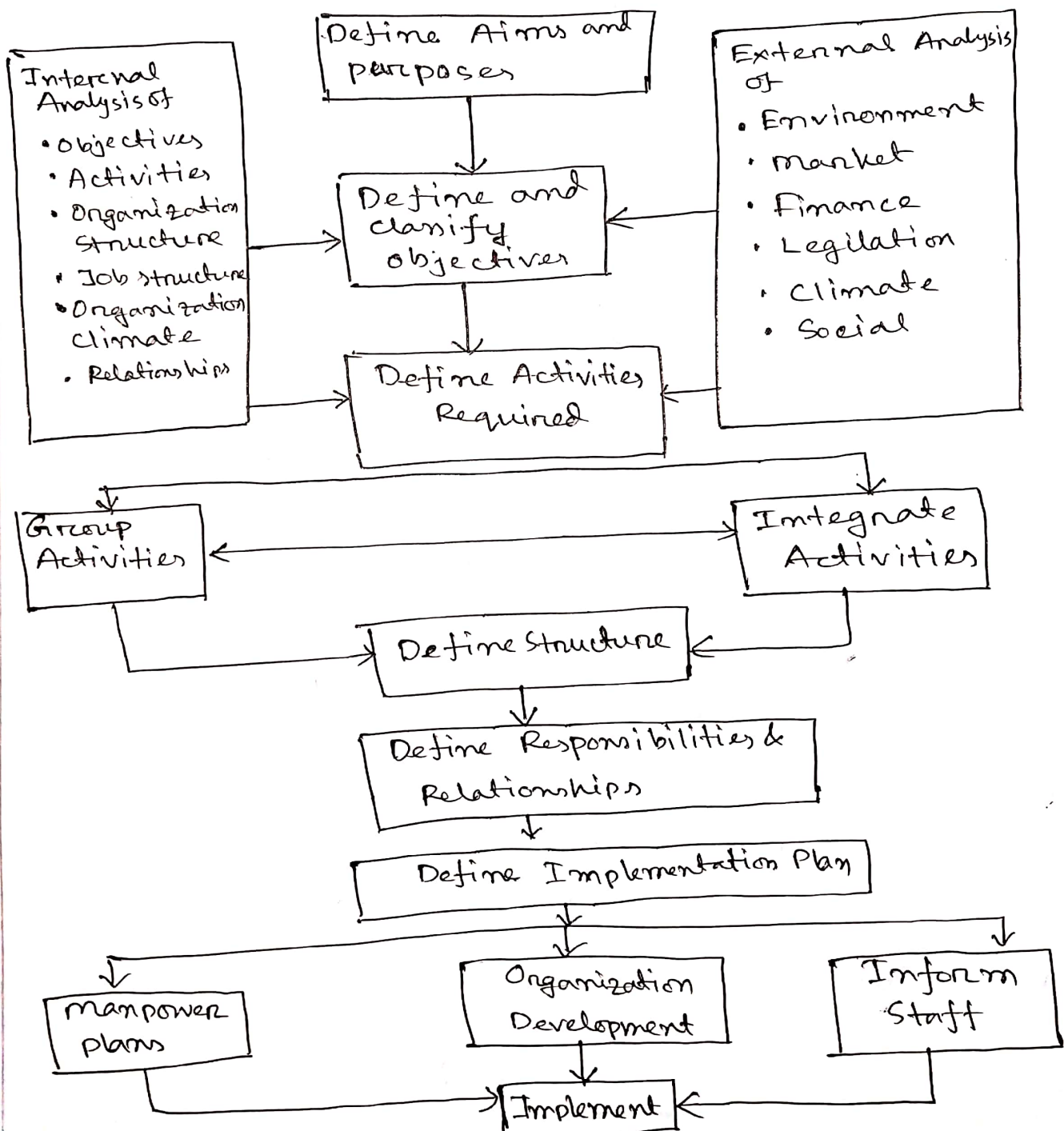
Organizational Development (OD) is important as, organizations improve and to maximize productivity organization Development is needed. Organizational Development is the programmes designed to improve performance and effectiveness with which an organization functions and responds to changes.

Organizational Development is needed for an organization to improve effectiveness and performance. The key objectives of Organizational Development are -

- ① To improve the organization's performance as a measure of profit, market share and innovations.
- ② To ensure employees that they face organizations problems, and provide creative solutions.
- ③ OD is needed for ^{integrating} ~~making~~ individual goal and organizational goal and

maintain a openness, comforting, gentle and relationship of the organization. That is why Organizational Development is important.

Stages followed in an organization planning process is given below:



Organization Planning process starts with the definition of Aims and purposes of the planning then to Define objectives. Then to Analysis of Internal and External Organization. Then to Structure and responsibilities of the organization. and Then to implementation plans and organization development. And lastly implement of those plans.

And with these organization planning process stages complete.

Ans. to the ques. no.-01(c)

A typical engineering organization looks like

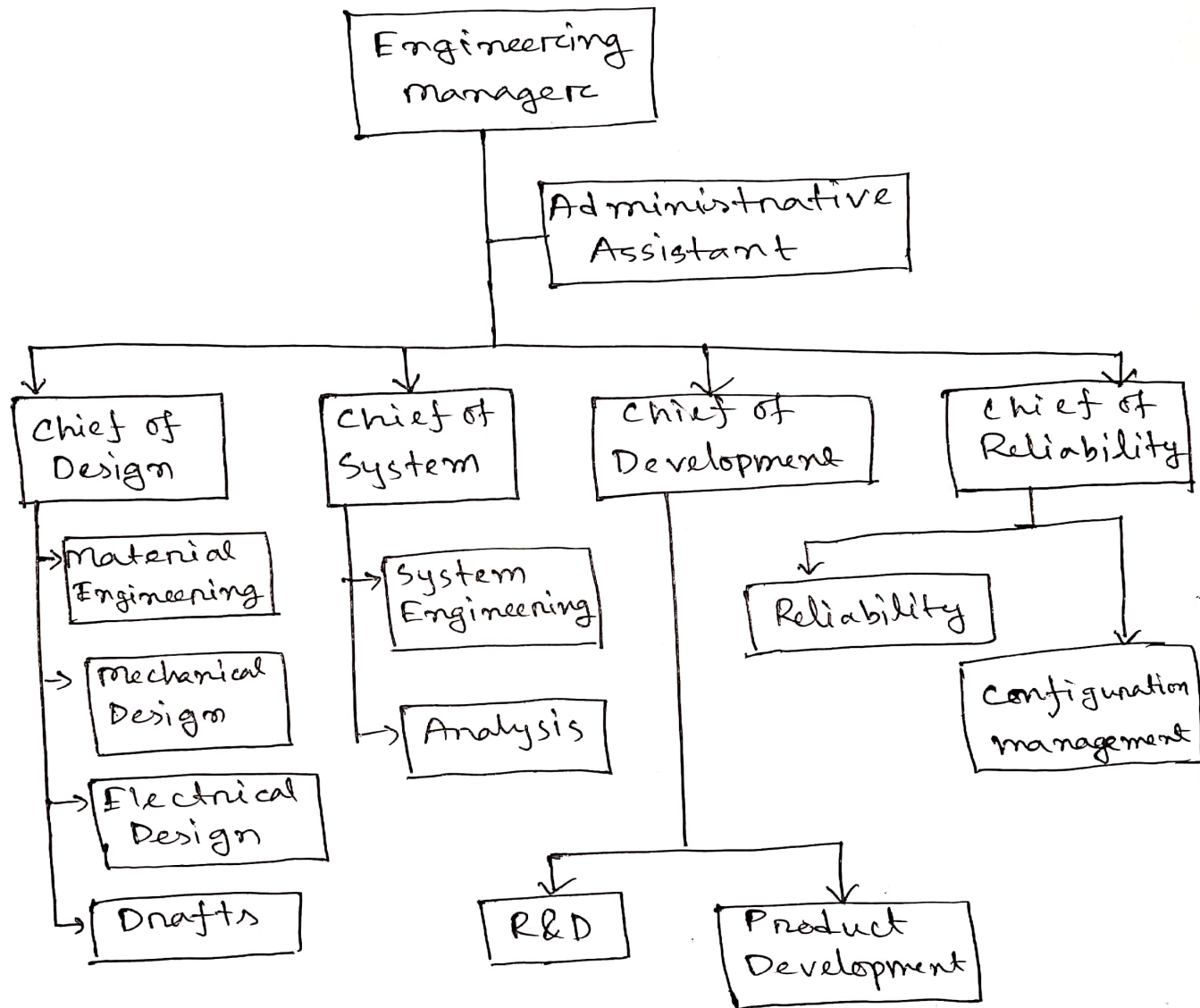


fig: A Typical engineering organization.

Listing 2 responsibilities of each section are given:

Chief of Design:

- Creating design layout and manufacturing drawings
- Conducting structural design Analysis.

Chief of System:

- Converts customer requirements to a wearable system.
- Performs system analysis.

Chief of Development:

- Manages other resources to provide a sound engineered product within cost and schedule requirements.
- Maintains day-to-day communication of technical terms to customers.

Chief of Reliability:

- Perform system and component reliability analysis.
- Performs safety and hazard Analysis.

Ans. to the ques. no. - 03(a)

"Failure Analysis" is the analysis of failure risks of component or system or a product. Failure Analysis can be defined with the following diagram known as "Bath Tub" curve:

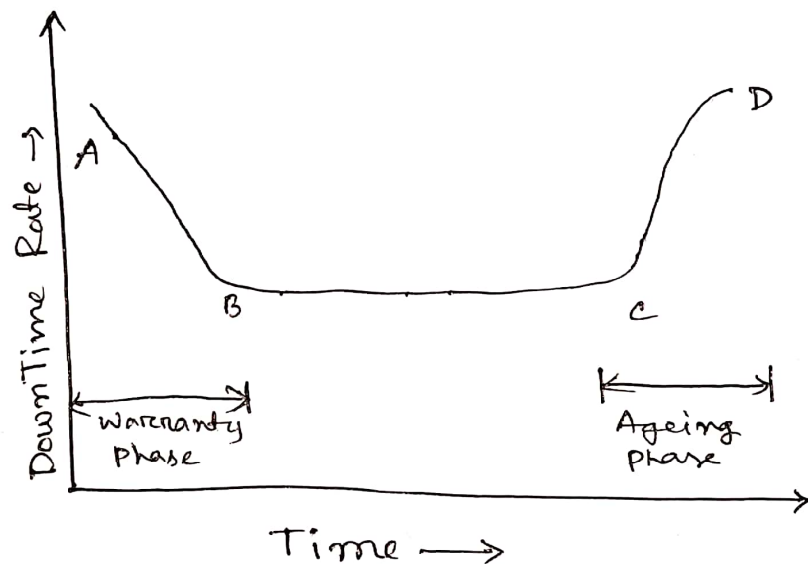


Fig: 'Bath Tub' curve for Failure Analysis.

In (A-B): Infant Mortality: This phase is when a new product or newly recently serviced product has the highest failure risk due to minor breakdowns, vulnerable/damaged component. Warranty phase is provided to cover for these failures. Can be approximated to "Hyper Exponential" distribution.

In (B-c): Negative Exponential: In this phase the product attains stability and failure risk is near constant. Approximated to "Negative Exponential" Distribution.

In (C-D): Abnormal Exponential: In this phase failure risk is higher due to Ageing and wear-out and failure risks get higher with operating time.

Together it is called Weibull distribution.

Failure Analysis is important from the engineering perspective as it tells us when and how to maintain products and servicing periods.

Failure Analysis provides guidelines of operating time and when to maintain and servicing of products for better longevity of products.

Ans. to the ques. no. - 03(b)

Factors that are critical for consideration when selecting a locality are given below :

- ① Selecting a Region.
- ② Selecting a Locality
- ③ Selecting a site.

① Selecting a Region:

To consider the following :

- ① ~~At~~ Availability of Raw Materials
- ② Nearness to source
- ③ Good transportation
- ④ Proximity to market.

② Selecting a Locality:

To consider :

- ① Local Laws and Taxes
- ② Local wage rates

③ Selecting a site:

To consider :

- ① Price of the land to manufacture.
- ② Disposal of waste.

Ans. to the ques. no. - 03(c)

Factors affecting selection of facility location are:

① Demography: Plant location, plant information, region etc.

② Land: Land laws, selection, disposal of waste.

③ Incentives: Government taxes etc.

④ Government restrictions: Additional subsidians etc.

⑤ Climate condition: Climate for production etc.

⑥ Additional Information about Land:

Additional Info for land to expand ~~on~~ to the land in future.