

## Professional Practices BS-SE(13)

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### **Question 1 (a):**

**Answer:** There are five main groups of functions which exist in almost every organization.

1. **Production:** Activities that directly contribute to creating the products or services that the company sells.
2. **Quality management:** Quality activities are necessary to ensure that quality of the products and services produced is maintained at the agreed upon level, it is an extended level which cannot fall.
3. **Sales and marketing:** Sales is concerned directly with selling the product. While marketing is defining the strategy to sell the product, they advertise the product to attract customers and satisfy customers' needs and wants.
4. **Finance and administration:** They can look to the overflow of the company to pay bills, fund distribution, All central services.
5. **Research and development:** How can the company do better the things that it already does and what other things might to do in future, to launch such a product which can generate more profit.

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### **Question 1 (b):**

**Answer:** A centralized company is which relies on one individual, central person to make all the decisions of the company and direct the company. It is commonly used in small companies as there is a small amount of people. And Decentralized organizations rely on a team environment at different levels in the business.

**Microsoft:** Microsoft is a clear example of centralized. The company relies on one person, a central person to make all decisions, Bill Gates.

**IBM:** IBM is also a clear example of centralized.

**Ebay:** IBM is a clear example of decentralized.

**Amazon:** IBM is a clear example of decentralized.

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## Question 2 (a):

### Answer:

**Limited Companies:** Limited Company is a private company whose owners are legally responsible for its debts only to the extent of the amount of capital they invested.

**Public Limited Companies:** Trades share to the public (Sitara chemical industries Limited, karachi. Banwany air products Limited, karachi )

### Private Limited Companies:

- they cannot sell share to public
- They can sell shares privately
- In limited companies the shareholders are personally liable for some fixed amount of the companies debts
- Limited by share: commercial companies e.g: Dalda cooking oil, pepsi etc
- Limited by guarantee: Charities, professional bodies.

**Unlimited Companies:** Unlimited companies are opposite to limited companies, in an unlimited company the shareholders are personally liable for the company's debts.

Three Limited and unlimited companies in pakistan:

Limited Companies:

1. Bawany Air Products LTD.
2. Ittehad Chemicals LTD.
3. Pak suzuki motor CO LTD.

Unlimited Companies:

1. Textile Unlimited, Inc.
  2. Macrosoft, Inc.
  3. Zepto Systems, Inc.
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## Question 2 (b):

**Answer:** The Data Protection Directive, officially Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data, is a EU directive adopted in 1995 which regulates the processing of personal data within the EU. It is an important component of EU privacy and human rights law.

**US directive:** As of 2003, the United States has no single data protection law comparable to the EU's Data Protection Directive. United States privacy legislation tends to be adopted on an ad hoc basis, with legislation arising when certain sectors and circumstances require. While certain sectors may already satisfy parts of the EU Directive most do not. The United States prefers what it calls a sectoral approach to data protection legislation, which relies on a combination of legislation, regulation, and self-regulation, rather than governmental regulation alone.

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### **Question 3 (a):**

**Answer:** Intellectual property rights are often the most valuable assets owned, used and developed by a software house.

Intellectual property is protected in law by e.g patents copyrights and trademarks. Its enable people to earn recognition or financial benefit from what they invented or create.

Intellectual property rights includes confidential information, patents, trademarks, design and copyrights.

They protect information stored by electronic means and all the paperwork which accompanies a program such as the user manual, plus any multimedia packages and most items on the web.

- The name under which a product is sold may be registered as a trade mark.
- The hardware or a process used in its manufacture may be protected by patent
- The look of the product may be registered in the designs registry
- Software can be protected by copyright

### **Copyright:**

- It is a legal term used to describe the rights that creators have over their literature.
- The exclusive legal right, given to an originator or an assignee to print, publish and perform material.
- Copyright protects more items generated by businesses or by individual than any other aspect of intellectual property law.
- works covered by copyright protection range from letters, manuals, diagrams and computer programs.
- The copyright system has recently come under great pressure with the growth of the internet and moves towards digitization.

### **Patents:**

- A government authority conferring a right or title for a set period, especially the sole right to exclude others from making, using or selling an invention.
- A patent is an exclusive right granted for an invention.
- A patent provides the patent owner with the right to decide how or whether the invention can be used by the others.
- Patent act merely sets out a number of criteria which must be satisfied before an invention can be patented
- A patent may only be granted if the invention is, it involves an inventive step and it is capable of industrial application.

### **Trademarks:**

- A trademark is a sign capable of distinguishing the goods or services of one enterprise from those of other enterprises.
- Mark includes brand name, heading, label, ticket combinations of colors etc.
- Brand refers to a name, sign, symbol or design or combination of them which intended to identify the product.
- Trademarks can be registered.

**Question 3 (b):**

**Answer:** The following sources of funds that can help you to start a company.

**Grants:** A grant is a sum of money given to the company, while the company is obliged to demonstrate that it has been used for the purpose for which it was intended, it is not intended that the grant should ever be paid back to the organization which gives it. The availability of grants and other help for new companies depends very much on where the company is located, how many people it expects to employ and on government policy at the time.

**Loans:** A loan is a sum of money lent to the company interest is payable on it at a rate that may be fixed or variable and the loan is usually for a fixed period. The company is liable to pay back the loan and if the company goes into liquidation the lender is entitled to recover the loan from the sale of the assets of the company. In most cases security is required for the loan.

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**Question 4 (a):**

**Answer:** Contracts are an agreement (To agree on terms and conditions) between two or more parties creating a legal obligation for both of them to perform specific acts. Contracts are important because if one party needs to bring action against the other, the contract will form the basis of that action. The courts will look at the contract to find what terms have been broken.

Contracts serve the following purpose:

- Set out the agreement between the parties
  - Set out the aims of the parties (Goal)
  - Provide for matter arising while the contract is running (handle conflict)
  - Ways to terminating the contract and the consequences
  - If the contracts are too harsh or unfair causing any issue between parties to be unresolved, it is the responsibility of contract laws to contemplate according to the rules.
  - There are almost never disputes over contracts which run perfectly. E.g Marriage
  - Example of a ship carrying a cargo
  - In order to avoid disputes and future difficulties it is better to draft a document which sets out the terms on which both parties is to work, methods of payments, appropriate ways to terminate the contract notice required
  - Contract should be clear, concise and consistent. There should be no ambiguity and the parties to the agreement should be left in no doubt as to their rights and duties. Ambiguity and doubts can lead to performance which is viewed as unsatisfactory. This can lead to disagreement and the expenditure of time, effort and therefore money in resolving the matter.
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#### **Question 4 (b):**

#### **Answer:**

**Pen-testing:** Pen-testing also called Penetration testing or ethical hacking. Ethical hackers perform most of the same activity but with owners permission such as penetration tests. Penetration testing is a legal and structured procedure to evaluate the security posture of an organization. Penetration testing is one of the most common and widely used techniques to identify vulnerable areas of the system. It involves wilful attacks on the system to identify the weak areas, which might provide a passage to malicious or unauthorized users for attacking the system and altering their integrity and veracity. This technique helps in fixing various security bugs and loopholes.

Three methodologies of penetration testing

**White Box Model:** Tester is told everything about the network topology and technology and is authorized to interview IT personnel as well. Makes the job easier for him. The tester has complete access and in-depth knowledge of the system to be tested.

**Black Box Model:** Company staff does not know about the test. Tester is not given details and high-level of information is made available to the tester, The tester is totally unaware of the network so the burden is on the tester to find out the details. The test determines if the security personnel are able to detect an attack.

**Gray Box Model:** This mode of test is a combination of both white and black box models. The company provides the tester with partial information about the network. The testing makes only a limited number of information available to the tester to attack the system externally.