

**SUGGESTED ANSWERS TO**

THE QUESTIONS SET AT

**CHARTERED ACCOUNTANCY PROFESSIONAL (CAP)-III LEVEL**

**DECEMBER 2021 EXAMINATIONS**

**Group-II**

**The Institute of Chartered Accountants of Nepal  
(ICAN)**

Satdobato, Lalitpur

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Year and month of Publication: 2022 April

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## Paper 5: Management Information and Control System

**Attempt all questions.**

1. *You are working as an IT head in an Internet service Provider Company. Your company is going to purchase the necessary hardware and software for FTTH/ IPTV billing system. In this context, answer the following:*

a) *What hardware and software evaluation parameters do you use to evaluate and select the system?*  
**(5+5=10 marks)**

b) *After selecting the solution, what various activities would you carry out before “Go Live” of the system and why?*  
**10 marks**

**Answer:**

a) **Hardware evaluation parameters**

- Performance
  - ☐ Speed, capacity, throughput
- Cost
  - ☐ Lease or purchase price
  - ☐ Cost of operations and maintenance
- Reliability
  - ☐ Risk of malfunction & maintenance requirements
  - ☐ Error control and diagnostic features
- Compatibility
  - ☐ With existing hardware and software?
  - ☐ With hardware & software provided by competing suppliers?
- Technology
  - ☐ Year of product life cycle
  - ☐ Does it use a new, untested technology?
  - ☐ Does it run the risk of obsolescence?
- Ergonomics
  - ☐ “human factors engineered”?
  - ☐ User-friendly?
  - ☐ safe, comfortable, easy to use?
- Connectivity
  - ☐ Easily connected to WANs and LANs that use different types of network technologies and bandwidth alternatives?
- Scalability
  - ☐ Can it handle the processing demands of end users, transactions, queries, & other processing requirements?
- Software

- Is system and application software available that can best use this hardware?
- Support
  - Is support available?

#### **Software evaluation parameters**

- Quality
  - Bug free?
- Efficiency
  - Well-developed system of program code that does not use much CPU time, memory capacity, or disk space?
- Flexibility
  - Can it handle our processes easily without major modification?
- Security
  - Does it provide control procedures for errors, malfunctions, and improper use?
- Connectivity
  - Web-enabled?
- Language
  - Is the programming language familiar to internal software developers?
- Documentation
  - Well-documented? Help screens and helpful software agents?
- Hardware
  - Does existing hardware have the features required to best use this software?
- Other factors
  - Performance, cost, reliability, availability, compatibility, modularity, technology, ergonomics, scalability, and support characteristics

b) Various activities that should be carried out before “Go Live “are:

#### **i) Testing:**

**Software Testing** is a method to check whether the actual software product matches expected requirements and to ensure that software product is Defect free.

It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest.

The purpose of software testing is to identify errors, gaps or missing requirements in contrast to actual requirements.

Software testing is necessary because

- ✓ If there are any bugs or errors in the software, it can be identified early and can be solved before delivery of the software product.
- ✓ Properly tested software product ensures reliability, security and high performance which further results in time saving, cost effectiveness and customer satisfaction.
- ✓ Testing is important because software bugs could be expensive or even dangerous. Software bugs can potentially cause monetary and human loss

ii) **Training:**

Training before the system officially goes live at the company will give employees a chance to acclimate to any new processes and work out any problems with the system before it is implemented. This will also help with any resistance coming from employees who are hesitant of change. By teaching employees from the company's various departments on how to use the new system the way it was meant to be used will eliminate any doubts, misunderstandings, unnecessary errors and problems.

When everyone involved with using the system is included in the training, they will feel more confident about using it as they go into production and the user community will view the implementation as successful. The system may have been tested for functionality and all customizations are working accurately, but if the end users do not know how to use it or feel comfortable with it, then the launch of the new system will be viewed as unsuccessful. Therefore, the timing of the end user training is critical and must be planned for and implemented prior to Go Live to ensure a successful implementation.

iii) **Conversion:**

The initial operation of a new e-business system is a conversion process in which the personnel, procedures, equipment, input/output media, and databases of an old information system must be converted to the requirements of a new system. Without conversion the system is just the function system not the operational system. For real operation conversion is must.

2. *Suppose that you are hired to develop an e-commerce website for a book store to sell books online to its customers. Based on this scenario, answer the following:*
- a) *Explain different e-commerce features you consider to develop this website.* **7 marks**
  - b) *What is your plan for disaster recovery if the website goes down? Explain.* **7 marks**
  - c) *Which e-commerce category will you suggest? Do you have any suggestions about the design of the website?* **(3+3=6 marks)**

**Answer**

- a) There are certain elements every ecommerce site should have to stay relevant and competitive. The different features of e-commerce considered to develop e-commerce website are as follows:
1. **Branded Design and Easy Navigation:** To succeed in the highly competitive ecommerce landscape, it is absolutely essential for the design of a brand's website to encapsulate its characteristics and qualities. Now more than ever, high-quality website design is a non-negotiable business asset in ecommerce. Businesses need an ecommerce platform that both includes building blocks for impeccable website design and allows flexibility for design flourishes that showcase individual brand identities.  
  
Navigation is also a core tenet of strong web design. It goes almost without saying that a good ecommerce website should be as easy to navigate as possible, and should feature advanced search powered by artificial intelligence to help visitors find relevant products as quickly as possible. Above perhaps all else, navigability and search are key to providing streamlined ecommerce experiences that maximize conversions. Easy navigation, of course, must translate to all screen sizes and all devices such as mobile phones.
  2. **User-focused Order Functionality:** Every aspect of a brand's ecommerce presence should be tailored toward creating high-quality, personalized experiences for each user and their individual customer journeys. A good ecommerce platform will allow a brand to use customer data to personalize shopping experiences for site visitors across multiple channels. Artificial intelligence can power product recommendations that automatically appear and readjust to users' preferences in real time, with every click. Wish lists within user accounts can help brands

further personalize product recommendations and marketing, while allowing shoppers to conveniently save items for future purchases.

In addition, checkout, order management, and returns should all be hassle-free. Lengthy account signup forms can cause potential purchasers to abandon their carts, so every ecommerce checkout should feature an additional short form for speedy purchasing. A good ecommerce platform should also allow for order shipping transparency and painless returns, promoting a streamlined customer experience that extends beyond the purchase.

3. **Integration with Physical Retail:** When shopping online, customers should be able to know whether they can find a given product in the nearest physical retail store. A good ecommerce platform will feature functionality to add a find-in-store button linked to geolocation and brick-and-mortar inventory.

Brands should also be able to integrate their ecommerce platform with physical retail locations, to empower sales associates with the ability to eliminate walked sales with access to digital inventory, seamless ordering, and speedy delivery.

4. **Advanced Security Features:** By definition, ecommerce deals with transactions during which there is inevitably an exchange of sensitive financial information. Most ecommerce transactions and one-touch mobile payments are made with credit or debit cards, although some may also be made directly from bank accounts linked to a payment service like PayPal. What's more, many ecommerce platforms offer users the opportunity to link their store accounts with personal social media profiles.

No matter the means of payment or accounts linked, all personal and financial information shared by ecommerce users must be kept secure. Businesses must invest in a reputable and secure ecommerce platform equipped with advanced, modern security features, including layered security, SSL certificates, VPNs, and more.

5. **Live Chat Feature:** Offer a live-chat option to your customers. It is of great value to your site as it facilitates instant communication to help your visitors through any stage they are having difficulty with. The quality of customer service you offer plays a crucial role in the growth of your business. Therefore, rather than making the customers wait for the answers, many e-commerce websites have added live chat support to their help desk software.
6. **Social Media:** Add social media icons as you can make the visitors of your site better understand your business via social media channels like Facebook, Instagram, and Twitter etc. Businesses need to leverage proper social media channels as more and more people are joining and using social media platforms which make them one of the best ways to connect and serve your customers better.
7. **Page Speed:** Make sure your website loads faster. Analyze and optimize your website with page speed tools to implement the required web performance practices. This may lead to higher user engagement, retention, and conversions. Customers will leave your website if it doesn't load properly.

- b) A Disaster Recovery Plan (DRP) is a business plan that describes how work can be resumed quickly and effectively after a disaster. Disaster recovery planning is just part of business continuity planning and applied to aspects of an organization that rely on an IT infrastructure to function.

The overall idea is to develop a plan that will allow the IT department to recover enough data and system functionality to allow a business or organization to operate - even possibly at a minimal level.

The creation of a DRP begins with a DRP proposal to achieve upper level management support. Then a business impact analysis (BIA) is needed to determine which business functions are the most critical and the requirements to get the IT components of those functions operational again after a disaster, either on-site or off-site.

Every employee must be made aware of the DRP and when implemented, effective communication is essential. The DRP must include a comprehensive off-site data backup and an on/off-site recovery plan.

The biggest issue may be the sourcing of an alternate location with adequate equipment, but there are many places where data centre time and bandwidth can be rented so these arrangements could also be included in a DRP. Some companies can operate from just a single server so a backup machine can be kept at a remote location and kept up to date with a regular backup of the essential data required to operate being made. This would suit a small organization, but where there are more computers and a data centre involved there needs to be a more extensive plan made.

A DRP may require employees to relocate to a hot-site to resume work, if work cannot be conducted at the normal business site. This hot-site is an off-site location supplied with the computer equipment and data necessary to continue an organization's normal work.

It is imperative that organizations not only develop a DRP but also test it, train personnel and document it properly before a real disaster occurs. This is one reason why off-site hosting of all IT services can be a good choice for the protection they provide; in disaster situations personnel can access data easily from a new location, whereas relocating a terminally damaged data centre and getting it operational again is not an easy job.

Often a specialized disaster recovery planning consultant is hired to assist organizations in attending to the many details that can arise during such contingency planning.

- c) I suggest B2C (business to consumer) e-commerce. B2C (Business-to-Customer) ecommerce is the exchange of goods or services over the internet between online stores and individual customers. Consumer preference for the convenience of online shopping - coupled with the ease of starting an online store - has made ecommerce among the fastest growing sectors of the economy.

Shoppers at physical storefronts are acutely aware of the store layout, cleanliness, and ease of finding products and information. These factors are equally present for ecommerce businesses, with shelves and shiny floors replaced by:

- **Colour scheme:** A website that's hard on the eyes will turn off some users. Make sure the text is clearly visible in contrast to the background and the colours reflect your brand in a good way.
- **Navigation:** No matter how informative the content or attractive the products, consumers need to find it. Simple navigation that clearly points users in the right direction is essential for maximizing the hard work you put in to assemble inventory, and
- **Layout:** Much like navigation, the page itself needs to be presented in an attractive manner. Don't clutter the page with too much info: use tabbed menus if necessary so browsers aren't overwhelmed.

3.

- a) *Explain decision support system with example. What are the goals and applications of this system in business and industry? Compare decision support system with executive support system.* (3+2+2=7 marks)
- b) *Define IT risk assessment and explain various risk assessment methodologies.* (2+6=8 marks)

### Answer

- a) **First Part:** Decision support systems (DSSs) are the information systems that support non-routine decision making for middle management in organizations. They focus on problems that are unique and rapidly changing, for which the procedure for arriving at a solution may not be fully predefined in advance. These systems use internal information from TPS and MIS, and often information from external sources, such as current stock prices or product prices of competitors. These systems use a variety of models to analyze data, or they condense large amounts of data into a form in which



decision makers can analyze them. DSS are also called *business intelligence systems* because they focus on helping users make better business decisions.

For example, a national on-line book seller wants to begin selling its products internationally but first needs to determine if that will be a wise business decision. The vendor can use a DSS to gather information from its own resources (using a tool such as OLAP) to determine if the company has the ability or potential ability to expand its business and also from external resources, such as industry data, to determine if there is indeed a demand to meet. The DSS will collect and analyze the data and then present it in a way that can be interpreted by humans.

**Second Part:** The primary **goal** of using a DSS is to present information to the customer in an easy-to-understand way. A DSS system is beneficial because it can be programmed to generate many types of reports, all based on user specifications. For example, the DSS can generate information and output its information graphically, as in a bar chart that represents projected revenue or as a written report. The flexibility of the DSS is extremely beneficial for users who travel frequently. This gives them the opportunity to be well-informed at all times, providing the ability to make the best decisions for their company and customers on the go or even on the spot.

DSS has lots of **applications** in business and industry and is getting a lot of attention as a way to promote better projections, management and analysis within a company. DSS is extensively used in business and management. Executive dashboard and other business performance software allow faster decision making, identification of negative trends, and better allocation of business resources. Due to DSS all the information from any organization is represented in the form of charts, graphs i.e. in a summarized way, which helps the management to take strategic decision.

DSS can be used to manage inventory, where decision support system applications can provide guidance on establishing supply chain movement that works for a business. It can also be used for sales optimization, sales projection, and financial projections necessary for determining expenditures and revenues.

**Third Part:** Decision support system (DSS) allows senior managers to take non-routine decisions while the executive support system (ESS) allows senior managers to take decisions to meet the strategic goals of the organization. DSS is designed to help managers come up with solutions to problems on the basis of a data base or knowledge base whereas ESS is executive support system that presents summarized information that is used by executives to come up with best possible solution to problems with the help of their education, experience and business environment that they face.

DSS uses mathematical models and statistical techniques to support decision making. ESS is easier for upper-level executives to use and take decisions. It helps to monitor the company performance and examine the critical success factors. It also allows analyzing trends and determines the competitiveness in the market. Moreover, it improves flexibility, strategic control, improves communication and provides time management. ESS also provides excellent reporting facilities.

- b) **IT risk assessment** is a process of analysing potential threats and vulnerabilities to your IT systems to establish what loss you might expect to incur if certain events happen. Its objective is to help you achieve optimal security at a reasonable cost.

There are two prevailing methodologies for assessing the different types of IT risk: quantitative and qualitative risk analysis.

#### **Quantitative IT risk assessment**

Quantitative assessment measures risk using monetary amounts. It uses mathematical formulas to give you the value of expected losses associated with a particular risk, based on:

- the asset value
- the frequency of risk occurrence
- the probability of associated loss

In an example of server failure, a quantitative assessment would involve looking at:

- the cost of a server or the revenue it generates
- how often does the server crash
- the estimated loss incurred each time it crashed

From these values, you can work out several key calculations:

- single loss expectancy - costs you would incur if the incident occurs once
- annual rate of occurrence - how many times a year you can expect this risk to occur
- annual loss expectancy - the total risk value over the course of a year

These monetary results could help you avoid spending too much time and money on reducing negligible risks. For example, if a threat is unlikely to happen or costs little or nothing to remedy, it probably presents low risk to your business.

However, if a threat to your key IT systems is likely to happen, and could be expensive to fix or likely to affect your business adversely, you should consider it high risk.

You may want to use this risk information to carry out a cost/benefit analysis to determine what level of investment would make risk treatment worthwhile.

Quantitative measures of risk are only meaningful when you have good data. You may not always have the necessary historical data to work out probability and cost estimates on IT-related risks, since they can change very quickly.

### **Qualitative IT risk assessment**

Qualitative risk assessment is opinion-based. It relies on judgment to categorise risks based on probability and impact and uses a rating scale to describe the risks as:

- low - unlikely to occur or impact your business
- medium - possible to occur and impact
- high - likely to occur and impact your business significantly

For example, you might classify as 'high probability' something that you expect to happen several times a year. You do the same for cost/impact in whatever terms seem useful, for example:

- low - would lose up to half an hour of production
- medium - would cause complete shutdown for at least three days
- high - would cause irrevocable loss to the business

With your ratings determined, you can then create a risk assessment matrix to help you categorise the risk level for each risk event. This can, ultimately, help you decide which risks to mitigate using controls, and which to accept or transfer.

4.

a) What is CRM? How does CRM help to acquire, enhance and retain the customers?

(2+6=8 marks)

b) Describe any four offensive actions related to computer/IT according to Electronic Transaction Act 2063. 7 marks

#### Answer

a) Customer relationship management is a cross-functional enterprise system that integrates and automates many of the customer serving processes in sales, marketing, and customer service that interact with a company's customers. CRM systems use information technology to support the many companies who are reorienting themselves into customer-focused businesses as a top business strategy

CRM support the three phases of the relationship between a business and its customers.

**Acquire** – a business relies on CRM software tools and databases to help it acquire new customers by doing a superior job of contract management, sales prospecting, selling, direct marketing, and fulfilment.

The goal of these CRM functions is to help customers perceive the value of a superior product offered by an outstanding company.

**Enhance** – Web-enabled CRM account management and customer service and support tools help keep customers happy by supporting superior service from a responsive networked team of sales and service specialists and business partners. CRM sales force automation and direct marketing and fulfilment tools help company's cross-sell and up-sell to their customers, thus increasing their profitability to the business.

The value perceived by customers is the convenience of one-stop shopping at attractive prices.

**Retain** – CRM analytical software and databases help a company proactively identify and reward its most loyal and profitable customers to retain and expend their business via targeted marketing and relationship marketing programs.

The value perceived by customers is of a rewarding personalized business relationship with "their company".

b) The offensive action described by the Electronic Transaction Act 2063 of Nepal are summarized as:

- To pirate, destroy or alter computer program sources code:  
When computer source code is required to be kept as it is position for the time being the prevailing law, if any person, knowingly or with malicious intention, pirates, destroys, alters computer sources code to be used for any computer, computer program, computer system or computer network or cause, other to do so, he/she shall be liable to the punishment with imprisonment not exceeding three years or with a fine not exceeding two hundred thousand Rupees or with both.
- Unauthorized access in computer materials  
If any person with an intention to have access in any program, information or data of any computer, uses such a computer without authorization of the owner of or the person responsible for such a computer or even in the case of authorization, performs any act with an intention to have access in any program, information or data contrary to from such authorization, such a person shall be liable to the punishment with the fine not exceeding

Two Hundred Thousand Rupees or with imprisonment not exceeding three years or with both depending on the seriousness of the offence.

- **Damage to any computer Information system**

If any person knowingly and with a mala fide intention to cause wrongful loss or damage to any institution destroys, damages, deletes, alters, disrupts any information of any computer source by any means or diminishes value and utility of such information or affects it injuriously or causes any person to carry out such an act, such a person shall be liable to the punishment with the fine not exceeding two thousand Rupees and with imprisonment not exceeding three years or with both.

- **Publication of illegal materials in electronic form**

If any person publishes or displays any material in the electronic media including computer, internet which are prohibited to publish or display by the prevailing law or which may be contrary to the public morality or decent behaviour or any types of materials which may spread hate or jealousy against anyone or which may jeopardize the harmonious relations subsisting among the peoples of various castes, tribes and communities shall be liable to the punishment with the fine not exceeding One Hundred Thousand Rupees or with the imprisonment not exceeding five years or with both.

5.

a) *Why are systems vulnerable? Explain spoofing cyber-attack and mention the various techniques to avoid spoofing attack.* (2+3+3=8 marks)

b) *Why is the knowledge of business crucial to develop IT strategy?* 7 marks

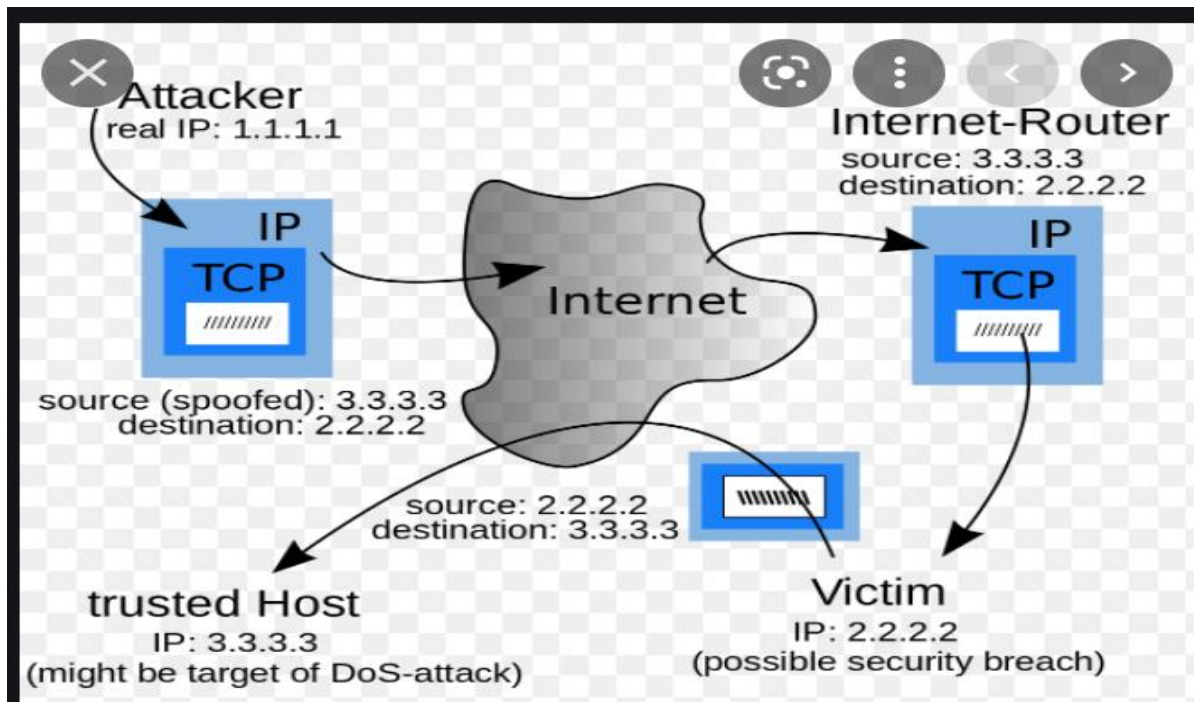
**Answer**

a) Information systems are vulnerable to technical, organizational, and environmental threats from internal and external sources. The weakest link in the chain is poor system management. If managers at all levels don't make security and reliability their number one priority, then the threats to an information system can easily become real.

- Spoofing is a specific type of cyber-attack in which someone attempts to use a computer, device, or network to trick other computer networks by masquerading as a legitimate entity.
- It's one of many tools hackers use to gain access to computers to mine them for sensitive data, turn them into zombies (computers taken over for malicious use), or launch Denial-of-Service (DoS) attacks.
- In IP spoofing, a hacker uses tools to modify the source address in the packet header to make the receiving computer system think the packet is from a trusted source, such as another computer on a legitimate network, and accept it.

**Various techniques to avoid spoofing attack**

- The options to protect against IP spoofing include monitoring networks for atypical activity, deploying packet filtering to detect inconsistencies (like outgoing packets with source IP addresses that don't match those on the organization's network), using robust verification methods (even among networked computers), authenticating all IP addresses, and using a network attack blocker.
- Placing at least a portion of computing resources behind a firewall is also a good idea.
- By using secure encryption protocols like HTTPS — and only surfing sites that also use them.



b) Though it seems that general IT needs of organizations are similar to each other, the specific IT needs of each organization can be entirely different. For instance, the IT needs of an academic institution, an industrial manufacturer, a hospital and a supermarket chain can be entirely different from each other. The nature, scale and functional area of the IT system, services and processes being implemented in these organizations are dictated by various factors including but not limited to the following:

- i. Area of business
- ii. Type of activity
- iii. Geography of operation
- iv. Size and type of workforce
- v. Regulatory environment
- vi. Specific business processes and functions.

Before formulating the IT strategy of the organization, the following questions have to be answered:

- i. What is the use of IT in my business process?
- ii. What are the benefits of implementing a specific IT enabled process?
- iii. What change can be enacted by implementing IT in a specific business area?
- iv. What is the impact on customer service, decision making process, competitive analyses, etc.?

Answer to each of these queries and many more like these needs a proper and thorough knowledge of the business and related processes. Without proper knowledge of business factors, an effective and fruitful IT strategy cannot be formulated.

6. Write short notes on:

(5 x 3=15 marks)

- a) Information system audit.
- b) Business to Customer ecommerce
- c) Mobile computing

d) *Dimensions of feasibility study of information system*

e) *Importance of patents for IT industry*

**Answer**

- a) An information technology audit, or information systems audit, is an examination of the management controls within an Information technology (IT) infrastructure. The evaluation of obtained evidence determines if the information systems are safeguarding assets, maintaining data integrity, and operating effectively to achieve the organization's goals or objectives. These reviews may be performed in conjunction with a financial statement audit, internal audit, or other form of attestation engagement.

The purposes of an IT audit are to evaluate the system's internal control design and effectiveness. This includes, but is not limited to, efficiency and security protocols, development processes, and IT governance or oversight. Installing controls are necessary but not sufficient to provide adequate security. People responsible for security must consider if the controls are installed as intended, if they are effective, or if any breach in security has occurred and if so, what actions can be done to prevent future breaches.

The primary functions of an IT audit are to evaluate the systems that are in place to guard an organization's information. Specifically, information technology audits are used to evaluate the organization's ability to protect its information assets and to properly dispense information to authorized parties. The IT audit aims to evaluate the following:

- Will the organization's computer systems be available for the business at all times when required? (known as availability)
- Will the information in the systems be disclosed only to authorized users? (known as security and confidentiality)
- Will the information provided by the system always be accurate, reliable, and timely? (measures the integrity)

IT audit is important because it gives assurance that the IT systems are adequately protected, provide reliable information to users and properly managed to achieve their intended benefits. Many users rely on IT without knowing how the computers work. A computer error could be repeated indefinitely, causing more extensive damage than a human mistake. IT audit could also help to reduce risks of data tampering, data loss or leakage, service disruption, and poor management of IT systems.

- b) Business to Customer e-Commerce is an online business done between business and customer. Business organizations publish websites with information about their services and products. Customers visit organizations' websites from home (or location different from the organization's), read product/service information if liked place order, purchase product/service. Customers can pay for the product also. The organization delivers the product to the customers.
- c) Mobile Computing is a technology that allows transmission of data, voice and video via a computer or any other wireless enabled device without having to be connected to a fixed physical link. The main concept involves –
- Mobile communication
  - Mobile hardware
  - Mobile software

**Mobile Communication:** This refers to the communication infrastructure set in place, including wireless network infrastructure, protocols, data formats, bandwidths, and portals necessary to ensure seamless connectivity and communication.

**Mobile Hardware:** The hardware is the mobile computing devices and supporting devices, with the capabilities required to perform their required operations and connect to networks.

**Mobile Software:** The most important software component is the operating system, which is the brain of any computing system. For a laptop, this may be Windows, Linux or mac OS, and for a smart phone, it may be Android or iOS. The different applications running on a device are also part of the mobile software.

d) Various dimensions of feasibility can be summarized as:

- Technical feasibility
- Economic feasibility
- Operational feasibility
- Schedule feasibility
- Legal feasibility

*Technical feasibility:*

Technical feasibility is concerned with the hardware and software system involved. The technical feasibility issues are as follows:

- Does the essential technology is available to do the task?
- Do the proposed equipment have the technical capacity to hold the data?
- Does the proposed system provide adequate responses to the inquiries regardless of the number of users?
- Do the system has scalability feature?
- Does the system provide the data security, reliability and ease of access?

*Economic feasibility:*

Economic feasibility is concern about the incremental costs and benefits expected if the proposed system is implemented. Various financial and economic concerns during the system analysis and development phases are:

- Cost of conducting full system.
- Cost of technology.
- Benefits in terms of reduced costs.

*Schedule Feasibility:*

Schedule feasibility focuses itself on the time frame for needed for the development of new system and make it operational. It also evaluates the promptness of the service provided after the implementation of the new system.

*Legal Feasibility:*

Analysis of any possible conflict between newly proposed system and the legal obligations of the organizations existing system is the main concern of the legal feasibility. For example, the new system should comply with all applicable federal and state statutes about financial reporting requirements as well as the company's contractual obligations.

e) **Importance of patents for IT industry**

Patents are designed to protect the intellectual property of an invention, innovation or an idea that has business value and hence risks being illegally copied or plagiarized by unauthorized people thereby depriving the main creator or innovator of the deserved rewards of the innovation.

In any area of business, academia or creative works, copyright protection is a major tool to ensure that the main creator is properly recognized and rewarded.

In IT industry, proper enforcement of this copyright protection mechanism is even more crucial because by the nature of the technology, the ideas and innovations have greater risk of being easily stolen or otherwise unlawfully used.

Like in other area, patents help the IT industry properly recognize and reward its creators and innovators by legally protecting their claim on their creations. This mechanism of protecting the copyright and rewarding the creator encourages other innovators to continue working on their innovative ideas and bringing forward new innovations into the ecosystem. In essence, patent protection mechanism acts as the catalyst of continued innovation, development and enhancement in IT industry as well as other industries.



## Paper 6: Advanced Taxation

Attempt all questions. Working notes should form part of the answer.

1. Following are the extracts of income statement and relevant information for Gopikrishna Cements P. Ltd whose 80% shares are held by a non-resident company based in Nigeria. Based on these information calculate the taxable income and tax liabilities including the interest, penalty and fees for the FY 2077/78. The return of income was filed by Ashwin 2078. **20 marks**

Particulars	Amount
Sales	500,000,000
Other Income:	
Interest Income	2,500,000
Gain on foreign exchange	200,000
Gain on sale of old vehicle	200,000
Compensation received from Insurance	150,000
Returns from Mutual Fund	100,000
Cost of goods sold	250,000,000
Salary & Wages expenses	45,000,000
Administrative expenses	2,500,000
Depreciation and amortization	6,300,000
Provision for doubtful debtors	400,000
Loss on sale of old machinery	300,000
Donation to a political party	200,000
Financing cost	1,800,000
Pollution Control expenses	1,500,000
Repairs expenses	2,225,000
Building	325,000
Machinery	1,400,000
Vehicle	500,000

Opening Depreciation Base	Amount
Pool A	10,000,000
Pool B	3,500,000
Pool C	4,500,000

Pool D	5,500,000
Pool E	1,200,000

Pool E value relates to an assets purchased 4 years ago, life of which was originally estimated to be 5 years.

Additional information:

- Gain on exchange is due to revaluation of foreign currency net assets position.
- Other Income is provided on gross basis, tax has been deducted by the respective parties wherever applicable.
- Vehicle and machinery sold for Rs. 1,400,000 and Rs. 800,000 respectively
- Insurance compensation is for the vehicle which met with an accident which occurred last year.
- There was a prior period expense item included in the inventory cost for Rs. 1,000,000.
- One of the staff member did not have the PAN number, he was paid Rs. 200,000 as salary.
- Salary & Wages expense includes CEO's salary of Rs. 5,000,000. He was appointed at salary of Rs. 5,000,000 on net of tax basis.
- Administrative expenses include expenses related to health club membership fees for managing director for Rs. 1,00,000.
- Fixed Assets Purchased - Building Rs. 5,00,000(1<sup>st</sup> qtr), Computers Rs. 3,00,000 (3<sup>rd</sup> qtr), Machinery Rs. 5,00,000(4<sup>th</sup> qtr).
- High capacity generator purchased for electrical supplies for Rs. 50 lakhs (4<sup>th</sup> qtr).
- Machinery purchased in 4<sup>th</sup> quarter on loan facility from bank remains to be used in business. Financing cost for the period on this loan was Rs. 50,000 including Service Charge of Rs. 37,500.
- Except for the financing cost for the machinery, rest of the financing cost was paid to parent company.
- No estimated tax return was submitted, no advance tax was paid.
- It employed 500 employees in the year out of which 400 were Nepalese nationals.
- The industry is located in Palpa district and was established in 2069.

## Answer

Computation of Taxable Income of Gopikrishna Cements P. Ltd for the Income Year 2077-78

Particulars	Section	Note	Amount
<b>Items to be Included in Income</b>			
Sales	U/s 7(2)(Kha)		500,000,000
Interest Income	U/s 7(2)(Chha)		2,500,000
Gain on foreign exchange	U/s 24(4)	1	0
Returns from mutual fund	U/s 7(2)(Chha)		100,000
<b>Total amounts to be included in Income</b>			<b>502,600,000</b>
Less: Deductible Expenses			

Cost of Goods Sold	U/s 15	2	249,000,000
Salary and Wages Expenses	U/s 13	3	47,158,594
Administrative expenses	U/s 13	4	2,400,000
Depreciation	U/s 19	5	6,566,667
Provision for Doubtful debtors	U/s 25	6	0
Repair and Improvement Cost	U/s 16	7	1,093,833
<b>Total Deductible Expenses</b>			<b>306,219,094</b>
<b>Adjusted Taxable Income</b>			<b>196,380,906</b>
Less: Interest Paid to Controlling Entity	U/s 14(2)	8	1,750,000
Less: Pollution Control Cost	U/s 17	8	1,500,000
Less: Donation to Political party	U/s 12	8	100,000
<b>Taxable Income</b>			<b>193,030,906</b>

*Computation of Income Tax Payable by the Gopikrishna Cements Private Limited for the Income year 2077-78*

Particulars	Provision	Note	Rate	Amount
Taxable Income				193,030,906
Income Tax Liability		9	6%	11,581,854
Less: Withholding Tax				
Interest	U/s 88(1)	(2,500,000 X 15%)		375,000
Return from Mutual Fund	U/s 88(1)	(100,000 X 15%)		15,000
Net Tax Payable				11,191,854

*Computation of Interest U/s 117(1)(Ka)*

As per Sub Section (1) of Section 117, if a person does not file the returns, the following charges are imposed on those persons;

In case not submission of income returns under subsection (1) of section 95. Higher of following: (per return)

- Rs 5000, or
  - 0.01% of assessable income mentioned in return. = 0.01 % \* (196,380,906 – 17,50,000 – 1,500,000) = 19,313
- Higher = 19,313

*Computation of Interest U/s 118*

Particulars		Income Tax Payable	90% of Income Tax Payable	Income Tax Paid	Balance Tax Payable	Interest U/s 118
Up to Poush	40%	4,632,742	4,169,468		4,169,468	156,355
Up to Chaitra	70%	8,107,298	7,296,568		7,296,568	273,621
Up to Ashad	100%	11,581,854	10,423,669	390,000	10,033,669	376,263
Total		11,581,854				806,239

**Note: 1**

As per Section 24(4), on computing Income from Business or Investment under accrual basis by a person, any change in the amount received or expense incurred due to any reason, inter alia, foreign exchange fluctuation in the already accounted inclusions or deduction of expense, such difference to be adjusted accordingly. Therefore, gain on revaluation of foreign currency shall not be included in Income.

**Note: 2**

As per Section 15, Expenses incurred during the year by the person in earning income from Business is only deductible. Therefore, in the given case prior period expenses of Rs. 100,000 is not deductible. Allowable Cost of goods sold will be Rs. 249,000,000.

**Note: 3**

*Computation of Salary and Wages expenses allowed U/s 13*

Particulars	Amount	Remarks
Given	45,000,000	
Less: Salary expenses without PAN of Employees	200,000	Not deductible U/s 21(1)(Gha1)
Add: Tax on CEO salary to be included in Income	2,358,594	Note 3.1
Deductible Salary	47,158,594	

**Note 3.1**

Assuming that CEO has opted the Couple Option U/s 50 and his Salary is X amount.

Up to	450,000	1%	4,500
Next	100,000	10%	10,000
Next	200,000	20%	40,000
Next	1,250,000	30%	375,000
Balance	X-2,000,000	36%	0.36X-720,000
Income Tax Payable			0.36X-290,500

Therefore,

$$X - (0.36X - 290500) = \text{Rs. } 5000000$$

$$X = 7,358,593.75.$$

Hence, Salary expenses to be added will be Rs. 2,358,594

**Note 4:**

As per Section 13, expenses incurred during the year by the person for earning income from Business is only deductible for the year. Further, as per Section 21(1)(Ka), any personal expenses is not deductible. Therefore, personal expenses of managing director is not deductible.

**Note 5:**

*Computation of Depreciation U/s 19*

Particulars	Pool A	Pool B	Pool C	Pool D	Pool E	Total Depreciation
Opening Depreciation Base	10,000,000	3,500,000	4,500,000	5,500,000	1,200,000	
Add: Absorbed Addition						
Up to Poush 2077	500,000	-	-	-	-	
Magh-Chaitra 2077 (2/3)	-	200,000	-	-	-	
Baishakh-Ashad 2078 (1/3)	-	-	-	833,333	-	
Less: Amount Derived from Disposal	-	-	1,550,000	800,000	-	
Depreciation Base	10,500,000	3,700,000	2,950,000	5,533,333	1,200,000	
Depreciation Rate	6.67%	33.33%	26.67%	20%	20%	
Depreciation	700,000	1,233,333	786,666	1,106,666	240,000	4,066,667
Closing Depreciation Base	9,800,000	2,466,666	2,163,333	4,426,666	960,000	
Special Depreciation				2,500,000		2,500,000
						6,566,667

- As machinery is not used during the year therefore, no depreciation U/s 19 shall be charged in such assets for the year. Further, interest on loan borrowed for the purchase of such assets is also not deductible U/s 14(1).
- As per Schedule 2 Section 3(3) of Income Tax Act, 2058, depreciation can be claimed for deduction at 50% of the capital expenditure of capitalized assets for production of energy necessary for the business of any person in same year. Further, as per Income Tax Directive, on balance 50% Depreciation U/s 19 read with Schedule 2 Section 3(2) @ 20% shall be charged in the same year after considering the date of purchase as per Schedule 2 Section 2(5).
- As per Schedule 2 Section 2(4), opening depreciation base for Pool E shall be the depreciation basis of the pool at the end of the preceding income-year, if any. It means that, opening depreciation base

as given in the question is before deducting depreciation for the previous year because its depreciation is calculated on Straight Line Method.

**Note 6:**

As per Section 25(2), a person may only disclaim the entitlement to an amount or write-off as bad debt claims of the person, after the person has taken all reasonable steps in pursuing payment and the person reasonably believes that the entitlement or debt claim will not be satisfied. In the given case, there is only the provision for doubtful debtors therefore such expenses is not allowed to be deducted.

**Note 7:**

*Computation of Repair and Improvement Cost allowed U/s 16*

Particulars	Pool A	Pool C	Pool D	Total Repair and Improvement Cost
Actual Expenses	325,000	500,000	1,400,000	
7% of Depreciation Base	735,000	206,500	562,333	
Allowed U/s 16 (lower of above)	325,000	206,500	562,333	1,093,833

7% of depreciation base for Pool D is taken inclusive of generator purchased during the year on which 50% depreciation has been charged.

**Note: 8**

*Computation of Adjusted Taxable Income for the purpose of Section 12, 14(2) and 17*

Particulars	Section 12	Section 14(2)	Section 17
Adjusted Taxable Income as per above calculation	196,380,906	196,380,906	196,380,906
Less: Actual Interest to Controlling Entity	1,750,000	-	1,750,000
Less: Actual Pollution Control Cost	1,500,000	1,500,000	-
Adjusted Taxable Income	193,130,906	194,880,906	194,630,906

Least of the following shall be allowed U/s 14(2)

- Actual interest paid to controlling entity = Rs. 17,50,000
- $$\text{All Interest Income} + 50\% (\text{Adjusted Taxable Income as per above} - \text{Any Interest Income} + \text{Any Interest Expenses}) = 2,500,000 + 50\% (194,880,906 - 25,00,000 + 0) = 98,690,453$$

$$\text{Lower} = 1,750,000$$

Least of the following shall be allowed U/s 17

- Actual Pollution Control Cost = 15,00,000
- $$50\% \text{ of Adjusted Taxable Income} = 50\% \times 194,630,906 = 97,315,453$$

$$\text{Lower} = 1500,000$$

Least of the following shall be allowed U/s 12

- Actual Donation to Political Party = 200,000
- $$5\% \text{ of Adjusted Taxable Income} = 5\% \times 19,3130,906 = 9,656,545$$
- Monetary Limit = 100,000

Least = 100,000

Assuming that political party is registered with election commission.

**Note 9:**

*Computation of effective rate applicable for the Gopikrishna Cements P. Ltd.*

Particulars	Note	Provision	Option 1	Option 2
Normal Rate		Schedule 1 Section 2(1)	25%	25%
Less: Exemption @ 20%	9.1	U/s 11(2Kha)(Kha)	5%	5%
Balance			20%	20%
Less: Exemption @ 20%	9.2	U/s 11(3)(Ka)	4%	0
Balance			16%	20%
Less: Exemption @ 70%	9.3	U/s 11(3)(Kha)	0	14%
Effective Tax Rate			16%	6%

As per Section 11(5), a person eligible for more than one concession under this section with respect to the same income shall be entitled to one concession of its own choice. Therefore, entity should opt for 6% Income Tax Rate.

**Note 9.1**

As per Section 11(2Kha)(Kha) Rebate @ 20% of Income Tax on income of an Entity will be allowed on Income Tax for Special Industry fully operated during any Income Year.

Further, as per Section 11(2Kha)(Ga) Person availing benefit above is also eligible if any for another tax rebate as per this section.

**Note 9.2**

As per Section 11(3)(Ka), Income derived from sources in Nepal during an income-year by a person from a special industry providing direct Employment to 300 or more Nepalese National during the whole income year, the effective tax rate for income from such industry will be reduced to 80% of applicable tax rate.

**Note 9.3**

As per Section 11(3)(Kha), respectively 10, 20 and 30 percentage of the applicable tax in the incomes of the special industry run in Least, undeveloped and under developed areas for 10 income years from the date of commercial production or transaction.

As per Annexure 10 of Industrial Enterprises Act, 2076, Palpa district has been categorized in Under Developed Area. Therefore, rebate of 70% is applicable for the entity.

2.

a) *Prashanna Gurung is resident of Gulmi produces and exports organic coffee abroad. In the year 2077/78 he had following transactions:*

*Coffee Export Sales Rs. 10,000,000*

*Coffee Local Sales Rs. 20,000,000*

*The selling price per unit is same for local as well as export sales and net profit margin is 40% in his business.*

He transferred a house property purchased 5 years back for Rs. 5,000,000 to his grandson; the value of the assets so transferred as on the date of transfer was Rs. 12,000,000.

Prashanna is disabled person and has opted as 'couple' for tax purposes. He suffered loss last year and has unsettled carry forward of loss of Rs. 1,200,000.

Calculate tax liability for Prasanna Gurung for the financial year 2077/78.

**7 marks**

- b) Sherpa Pvt. Ltd. was registered on Magh 2055 to conduct the transaction of purchase and sale of the property. The company had purchased a barren land of 200 ropani in Dhading district with a cost of Rs. 50 lakhs on Baishak, 2056. The market value of the land on Chitra 18, 2058 was Rs. 80 lakhs. The company transferred the ownership of the land to Ms. Sherpa on Rs. 140 lakhs on 20 Bhadra, 2077. Ms Sherpa has sold the land at Rs. 500 lakhs on Baishak 2078. The registration charge is 5% for the company's transactions and 3.5% for individuals. Assume the company and Ms. Sherpa have no other transactions. Answer the following questions concerning Income Tax Act, 2058 in this case.

**7 marks**

- How much Advance Tax and total Tax for the Income Year 2077/78 should be paid by the company? Ignore the fee and interest.
  - How much TDS should be paid by Ms. Sherpa in 2077/78?
  - Whether Ms Sherpa has to file an income tax return or not? If yes, calculate the tax liability.
  - If the land was purchased in the name of Sherpa on Magh 2055, instead of the Company, how much TDS is payable at the time of sale.
- c) Sweet Resort Pvt. Ltd. is badly affected by COVID 19 pandemic and incurred heavy losses. Accordingly, company decided to go for liquidation. Mr. Dipak Raut, a liquidation practitioner is appointed as liquidator of Sweet Resort Pvt. Ltd. on 15<sup>th</sup> Kartik 2077. After appointment, he assumed his office and started to dispose the assets of the company to settle its liability. When he is about to complete his job, he observed that he forgot to pay the withholding tax of Rs. 1,090,000 and at that point he is left with only Rs. 500,000 which is allocated for payment to shareholder on proportionate basis. If he would have known that such tax is payable, he would pay the entire tax on time from amount realized through such assets.

Now you are required to examine the liability of Mr. Dipak in relation to above matter as per Section 103 and 108 of Income Tax Act, 2058.

**6 marks**

### Answer

- a) Computation of Taxable Income of Prasanna Gurung for the Income year 2077-78

Particulars	Section	Note	Amount
<b>Income from Business</b>			
Items to be Included in Income			
Sales	U/s 7(2)(Kha)		30,000,000
Profit Margin		40%	12,000,000
Less: Less Carried Forward and Set Off	U/s 20(1)		1,200,000
Assessable Income from Business			10,800,000
<b>Income from Investment</b>			
Transfer of Assets to Grandson	U/s 2(Da)(5)	1	-



Assessable Income from Investment			-
Total Assessable Income			10,800,000
Less: Handicapped Allowance			225,000
<b>Taxable Income</b>			<b>10,575,000</b>

*Computation of Tax Liability of Prasanna Gurung for the Income year 2077-78 as per Schedule 1 Section 1(2)*

Particulars	Note	Monetary Limit	Rate	Amount
Up to		450,000	0%	-
Next		100,000	10%	10,000
Next		200,000	20%	40,000
Next		1,250,000	30%	375,000
Less: Rebate	2			(125,000)
Balance		8,575,000	36%	3,087,000
Less: Rebate	2			(1,029,000)
Total				2,358,000
Less: Rebate	3	(80% of Rs. 2,358,000)		1,886,400
Net Tax Payable				471,600

**Note 1:**

As per Section 2(Da)(5), the house property was transferred to the grandson by the grandfather, i.e. within three generations. This transfer therefore is not within the definition of Non-Business Chargeable Assets and because of this, the gain is not considered in the income of Prasanna Gurung.

**Note 2:**

As per Section 11(2Kha)(Ka) rebate @1/3 of Income Tax Rate on income of a Resident Natural Person will be allowed on Income Tax for Special Industry fully operated during any Income Year if he is liable to pay 30% tax.

Further, as per Section 11(2Kha)(Ga) Person availing benefit above is also eligible if any for another tax rebate as per this section.

**Note 3:**

As per Section 11(3)(Kha), respectively 10, 20 and 30 percentage of the applicable tax in the incomes of the special industry run in Least, undeveloped and under developed areas for 10 income years from the date of commercial production or transaction.

As per Annexure 10 of Industrial Enterprises Act, 2076, Gulmi district has been categorized in Undeveloped Area. Therefore, rebate of 80% is applicable for the entity.

**Note 3:**

As per Section 11(5), a person eligible for more than one concession under this section with respect to the same income shall be entitled to one concession of its own choice. There are other options

available to the Entity also but, among the other option Rebate provided by Section 11(3)(Kha) is higher, there Mr. Prashanna should opt for this rebate.

b)

- i) *Computation of Taxable Income and Tax Liability of Sherpa Private Limited for the Income Year 2077-78*

Particulars	Section	Note	Amount
Items to be Included in Income			
Amount derived from disposal of Land	U/s 7(2)(Kha)		14,000,000
Total Amount to be Included in Income			14,000,000
Less: Deductible Expenses			
Purchase price of Land	U/s 40(3)	1	8,000,000
Total deductible expenses			8,000,000
Assessable income from business			6,000,000
Income Tax Payable @ 25%	Schedule 1 Section 2(1)		1,500,000
Less: Advance Tax paid at Land Revenue Office	U/s 95Ka(6)	2	210,000.0
Net tax Payable			1,290,000.0

**Note 1:**

Section 40(5) has made the provisions that equal to the market value on 18 Chitra, 2058 of such property is considered as outgoing of the property.

**Note 2:**

As per Section 95Ka(6), In case of entity, Land Revenue Office shall collect advance tax at 1.5% on amount derived from disposal at the time of registration.

**Note 3:**

As per Sub Section (1) of Section 56, in case a distribution or otherwise by way of transfer of ownership an Asset Disposal between an Entity and its Beneficiary:

(Ka) The transferor of the Asset shall be deemed to have received through the Disposal an amount equal to the Market Price of the Asset immediately before the Disposal, and

(Kha) The transferee of the Asset shall be deemed to have incurred a cost equal to the amount mentioned in Clause (Ka) while acquiring the Asset.

Question is silent about the market price of the land at the time of transfer to Ms Sherpa. Therefore, Rs. 140 Lakh is considered as the market price as on date.

- ii) *Computation of Advance Tax to be paid by Ms Sherpa U/s 95Ka(5)(Kha)*

Particulars	Section	Amount
Incoming from disposal of Land	U/s 39	50,000,000

Less: Outgoing for Land	U/s 38	
Purchase Price		14,000,000
Registration Charge		490,000
Total Outgoings		14,490,000
Gain on disposal of Non Business Chargeable Assets		35,510,000
Advance Tax @ 5%	U/s 95Ka(5)(Kha)	1,775,500

- iii) As per Section 97(2), natural person having income more than Rs. 40 lakh in any income year shall file a return of income as per Section 96.

*Computation of Income Tax Liability of Ms. Sherpa for the Income Year 2077-78 as per Schedule 1 Section 1(3) and (4)*

**Step 1:**

Higher of the following shall be taxed as per Schedule 1 Section 1(2) (Assuming Couple U/s 50)

a) Taxable Income – Gain on disposal of Non-Business Chargeable Assets

= 35,510,000 - 35,510,000 = 0

b) Rs. 450000

Higher = Rs. 450,000

Tax on Rs. 450,000 as per Schedule 1 Section 1 (2) will be 0

**Step 2:**

Balance taxable income shall be taxed @ 5% as per Schedule 1 Section 1(4)(Kha)(2)

Balance Taxable Income = 35,510,000 - 450,000

= 35,060,000

Income Tax Payable @ 5% = 1,753,000

- iv) *Computation of Advance Tax to be paid by Sherpa if the land was purchased in the name of Sherpa on Magh 2055*

Particulars	Section	Note	Amount
Incoming from disposal of Land	U/s 39		50,000,000
Less: Outgoing for Land	U/s 38		
Purchase Price		1	8,000,000
Total Outgoings			8,000,000
Gain on disposal of Non-Business Chargeable Assets			42,000,000
Advance Tax @ 2.5%	U/s 95Ka(5)(Ka)		1,050,000

- c) As per section 103(2)(Ga), of Income Tax Act, 2058, withholding tax gets the first priority even in case of liquidation of the entity over other preferential creditors.

As per section 108(4), to the extent that a receiver fails to set aside an amount as required, the liquidator shall personally be liable to pay an equal amount to the Department on account of the tax debtor's tax liability.

Provided that the liquidator may recover any amount paid from the tax debtor.

In this case, Mr. Dipak Raut, a liquidation practitioner is appointed as liquidator of Sweet Resort Pvt. Ltd. on 15th Kartik 2077. After appointment, he assumed his office and started to dispose the assets of the company to settle its liability. When he is about to complete his job, he observed that he forgot to pay the withholding tax of Rs. 1,090,000

Therefore, Mr. Dipak is liable to pay the remaining withholding tax to be paid to tax authority.

3.

- a) *Sagarmatha Infotech Private Limited has income tax outstanding of Rs. 50,00,000 for various income years which it had failed to pay within prescribed time limit. Income Tax Department has requested in writing to the concerned authorities of Government of Nepal to stop the CEO and CFO of the Company from leaving Nepal for 6 months. The contention of the CEO is since payment of Income Tax is financial matter, he should not be held responsible, and contention of the CFO is since it is duty of the CEO to arrange for fund for payment of Tax, he should not be held responsible for payment of the tax. Further, their contention is, it is shareholders of the Company who are ultimate owners of the Company and should be held responsible. And hence, the order of income tax department to stop them from leaving Nepal is ultra-virus to the provisions of law.*

*Describe the relevant provisions of the Income Tax Act, advise:*

**5 marks**

- i) *Whether the action of Income Tax Department is ultra-virus to the provisions of the law or not.*
- ii) *What are the remedies available to the CEO and CFO of the company?*
- b) *What are the threats that may affect an auditor while providing tax planning and other tax advisory services to audit clients? Briefly mention factors and safeguarding measures by mentioning relevant provisions of ICAN Code of Ethics, 2018.*

**5 marks**

### **Answer**

a)

- i) As per Sub Section (1) of Section 106, where a person fails to pay tax on or before the date the tax is payable, the Department may, by notice in writing served on the concerned office of GON, order the office to prevent the person from leaving Nepal for a period of 72 hours after the expiry of time limit specified in a notice served for the purpose of paying tax.

Further, as per Section 107(1) and (2), where an entity does not comply with the laws, every person who is an officer of the entity at that time shall be liable for that. Where an entity fails to pay tax on or before the date on which the tax is payable, every person who is an officer of the entity at that time or was such an officer within the previous six months shall be jointly and severally liable every other such for payment of the tax.

As per Section 107(3), above subsections shall not apply in only if the offence is committed by the entity without that person's knowledge or consent; and where the person has exercised the degree of care, diligence, and skill that a reasonably prudent person would have exercised in similar circumstances to prevent the commission of the offence.

There is no such case mentioned in the question that satisfied the provision mentioned in Section 107(3) therefore, the action of Income Tax Department is not ultra-virus to the provisions of law.

- ii) As per Section 106(3), where the person pays the tax or makes an arrangement for payment satisfactory to the Department, the Department may by notice in writing served on the office, withdraw the order.

Therefore, only remedy left with the CEO and CFO of the company is to pay tax accordingly.

- b) According to subsection 604 of ICAN Code of Ethics 2018, providing tax planning and other tax advisory services to an audit client might create a self-review or advocacy threat.

In general, factors that are relevant in evaluating the level of threats created by providing any tax service include:

- The particular characteristics of the engagement.
- The level of tax expertise of the client's employees.
- The system by which the tax authorities assess and administer the tax in question and the role of the firm or network firm in that process.
- The complexity of the relevant tax regime and the degree of judgment necessary in applying it.

In addition to the above factors that are relevant in evaluating the level of self-review or advocacy threats created by providing tax planning and other tax advisory services to audit clients include:

- The degree of subjectivity involved in determining the appropriate treatment for the tax advice in the financial statements.
- Whether the tax treatment is supported by a private ruling or has otherwise been cleared by the tax authority before the preparation of the financial statements.

For example, whether the advice provided as a result of the tax planning and other tax advisory services:

- Is clearly supported by a tax authority or other precedent.
  - Is an established practice.
  - Has a basis in tax law that is likely to prevail.
- The extent to which the outcome of the tax advice will have a material effect on the financial statements.
- Whether the effectiveness of the tax advice depends on the accounting treatment or presentation in the financial statements and there is doubt as to the appropriateness of the accounting treatment or presentation under the relevant financial reporting framework

Examples of actions that might be safeguards to address such threats include:

- Using professionals who are not audit team members to perform the service might address self-review or advocacy threats.
- Having an appropriate reviewer, who was not involved in providing the service review the audit work or service performed might address a self-review threat.
- Obtaining pre-clearance from the tax authorities might address self-review or advocacy threats

4.

- a) *GS Traders Pvt. Ltd. is in the business of importing and sale of electronic items in Nepal. The details related to one particular consignment in the year 2077/78 is as given below :*

*Cost of material as per invoice*

*Rs. 500,000*

<i>Bank charges for L/C</i>	<i>Rs. 15,000</i>
<i>Insurance</i>	<i>Rs. 10,000</i>
<i>Birgunj Dryport clearing agent's cost</i>	<i>Rs. 20,000</i>
<i>Freight up to custom point</i>	<i>Rs. 14,000</i>
<i>Freight from custom point to Kathmandu</i>	<i>Rs. 7,000</i>
<i>Other tax paid at custom point</i>	<i>Rs. 2,500</i>
<i>Nepal custom expenses including 10 % custom duty</i>	<i>Rs. 60,000</i>
<i>Demurrage charge paid at custom point</i>	<i>Rs. 10,000</i>
<i>Discount receivable</i>	<i>Rs. 20,000</i>

*Further information:*

*Discount receivable is not factored in the invoice and will be paid subsequently. The purchase price is without adjusting the discount.*

*Answer the following:*

**10 marks**

- i) *How the taxable value is determined in case of import of goods. Briefly mention with reference to the provisions of Value Added Tax Act, 2052.*
  - ii) *Compute the Value Added Tax payable at custom point as per above information.*
  - iii) *The company intends to sell the lot at 20% profit over the total cost. What price should it be selling and what will be the VAT amount on sale?*
- b) *Mayur Tobacco P. Ltd. has following transactions in the month of Chaitra 2077. You are required to calculate the Excise Duty to be claimed for refund. There is no deposit maintained with the Excise authorities and it follows physical control system.*

**10 marks**

<i>Excise duty paid on import of raw materials</i>	<i>2,500,000</i>
<i>Excise duty paid on import of packing materials</i>	<i>400,000</i>
<i>Value of export of cigarette</i>	<i>30,000,000</i>
<i>Value of local sale of cigarette</i>	<i>50,000,000</i>
<i>Discount given on local sale</i>	<i>500,000</i>

- i) *Would the answer be different if the value addition on the imported material is less than 15%.*
- ii) *What is the timeline by which the refund will have to be claimed?*
- iii) *What is the normal time by which the Excise Officer shall refund the Excise Duty refund claim?*

**Answer**

a)

- i) *As per Section 12(5), except otherwise provided in this Act, the taxable value for any imported goods shall be its customs' value including transportation, insurance, freight, commissions of agents and other persons, plus customs duties, countervailing duties plus any other taxes if levied on imports, but it shall not include VAT.*
- ii) *Computation of Taxable Value at the time of Import as per VAT Act, 2054*

Particulars	Note	Amount
Cost of material as per invoice		500,000

Bank Charges for L/C	Note 1	-
Insurance		10,000
Birgunj Dry port clearing agent's cost	Note 2	-
Freight up to custom point		14,000
Total cost up to custom point		524,000
10 % custom duty (10 % of Rs. 544,000)		52,400
Other tax paid at custom		2,500
Demurrage charge	Note 3	10,000
Freight from custom point to Kathmandu	Note 4	-
Discount Receivable	Note 5	-
Taxable Value		588,900
VAT payable at custom point 13%		76,557

Note1: Bank charges for L/C do not form part of the value of goods for custom purposes.

Note2: Birgunj dry port clearing agent's cost are not forming part of the value of goods for custom purposes

Note3: Demurrage charge paid to customs for delay in clearing is part of the value of the goods for VAT purpose.

Note4: Freight from custom point to Kathmandu is not included at custom point.

Note5: Discount receivable is not deducted because the importer has not received at the time of purchase.

Note6: Only custom duty is included in the taxable value as Act does not allow other expenses to be part of the value of goods for VAT purpose, though this forms part of the cost of importer.

iii) *Computation of Selling Price and applicable VAT on sales*

Particulars	Amount
Cost of material as per invoice	500,000
Bank Charges for L/C	15,000
Insurance	10,000
Birgunj Dry port clearing agent's cost	20,000
Freight up to custom point	14,000
Freight from custom point to Kathmandu	7,000
Nepal Custom Expenses Including Custom Duty	60,000
Other tax paid at custom	2,500
Demurrage charge	10,000

Total Cost	638,500
Less: Discount Receivable	20,000
Net Cost	618,500
Profit Margin @ 20% on Cost	123,700
Sales Price excluding VAT	7,42,200
VAT Payable on Sales	96,486

- b) As per Rule 6(1), only in case of liquor, spirit, khudo (molasses) and beer the Excise Duty shall be levied at the time of release of goods after production following Physical Control System.

However as per Rule 6(2Ka), while releasing cigarette, tobacco, Khaini, Gutkha, Panmasala, with or without having nicotine, and other similar tobacco related products, the amount of excise duty shall have to be deposited and the requisition form shall have to be approved for release of goods.

As per Section 3Kha(1)(Ka), no excise duty shall be levied on any goods or services if any goods or services are exported from Nepal. Further, as per Section 3Kha(4), Excise duty paid at the time of purchase or import of raw material used for production by industry producing and exporting excisable goods shall be allowed to be set off with excise duty to be paid at the time of removal of finished product as per Section 3Ka(3) and unadjusted Excise Duty if any after set off as per Sub Section (4) can be filed for refund with Excise Officer as per Section 3Kha(5).

In the given case rate of Excise Duty at the time of local sale is not given in the question therefore, we cannot calculate the exact amount of excise duty that can be claimed for refund. However, if any unadjusted amount remains after set off then same can be claimed for refund as per Section 3Kha(5).

- i) As per Section 3Kha(7), there must be the value addition of at least 15% on removal of Tobacco, Liquors and Panmasala products for claiming refund of Excise Duty as per Sub Section (5). If there is less than 15% value addition the refund cannot be claimed.
- ii) As per Section 3Kha(8), if claim for refund as per Sub Section (5) is not made within 1 year from the due date of filing return and if there is no value addition as mentioned in Sub Section (7) then no refund shall be allowed as per this section.
- iii) As per Section 3Kha(6), if Excise Officer finds its reasonable after investigation and examination then refund claimed as per Sub Section (5) shall be refunded within 60 days from the date of an application.

5.

- a) *Mountain Beverage Private Limited is engaged in the manufacturing and sale of liquors. Some of the excise sticker issued by the Excise office got damaged during manufacturing and packaging process. Please advise management of the Company on the provisions contained for the write off of the damaged stickers in Excise Act 2058 and Rules 2059.* **7 marks**
- b) *Prabhu Helicopter Pvt. Ltd. had sent its engine for repair purpose to Singapore on Bhadra 5, 2077. The value of engine is US\$ 2,000,000 and incurred US\$ 200,000 repair cost (including spare parts replacement). The engine was back in Nepal after repair on Falgun 5, 2077. What is the time limit for goods to be brought back which were sent to a foreign country from Nepal for the purpose of repair? Calculate the amount of Custom deposit at the time of sending the engine to Singapore and Custom duty to be charged on returning of engine. Assume rate of custom duty is 14%. Exchange rate on Bhadra 5, 2077 is 1 US\$ = Rs. 115.50 and on Falgun 5, 2077 is 1 US\$ = Rs. 112.50.* **7 marks**



- c) *Jhapa Tea State Pvt. Ltd. is a tea processing and producing industry, located in Jhapa. It has a tea production farm. It has local sales and export and provided the following information related to the month of Bhadra, 2078*

<i>Particulars</i>	<i>Transactions Amount Rs.</i>
<i>Local Sales</i>	<i>5,00,000.00</i>
<i>Local tea leaves sales</i>	<i>5,00,000.00</i>
<i>Export</i>	<i>20,00,000.00</i>
<i>Paid Wages and others that are VAT exempt</i>	<i>10,00,000.00</i>
<i>Building constructed on its own and completed in Bhadra, cost incurred as follows:</i>	
<i>Total purchase materials amount from VAT-registered suppliers up to Shrawan 2078</i>	<i>30,00,000.00</i>
<i>Wages paid up to Shrawan 2078</i>	<i>5,00,000.00</i>
<i>Total purchase materials amount from VAT registered parties in Bhadra, 2078</i>	<i>12,00,000.00</i>
<i>Paid to the municipality for the completion certificate</i>	<i>3,00,000.00</i>
<i>Wages payable</i>	<i>5,00,000.00</i>

*Compute the VAT amount payable/receivable by the Tea estate highlighting the provisions of the VAT Act, 2052 for the month. Assume no vat on opening. Also, give your views on how much amount can be claim for refund and how much amount to be paid?* **6 marks.**

**Answer**

- a) Rule 30(1) of Excise Rules 2059 provides that excise sticker shall be fixed while storing the liquor and tobacco product that are imported or manufactured in Nepal. Such stickers can be bought from tax office. Rule 30(5) provides that tickets made available by tax office to the Company is damaged at the time of use, then such tickets can be replaced by the Tax office after physical inspection by the Excise officer. Excise Directive 2068 specifies below procedure for destroying of damaged excise tickets:

- If a Company files application to the Excise Office for deduction of damaged or destroyed excise stickers, then Excise Office can allow such deduction after due investigation. Excise Office has to keep sample of damaged/destroyed stickers.
- Excise office has to issue equal amount of new excise tickets to the Company that is damaged or destroyed.

Such damaged/destroyed excise tickets shall be destroyed under affidavit of respective excise officer, representative of respective district office, representative of financial comptroller office, Excise Officer and Representative of Company every 3 months.

- b) As per Rule 7(1), in case it becomes necessary to send any goods to a foreign country from Nepal for the purpose of repair or to bring such goods into Nepal from abroad after repair thereof, full particulars regarding the number, size and specification of such goods, as far as possible, shall be filled up in the declaration form and submitted to the Customs officer.

As per Rule 7(2), in case any declaration form as mentioned in sub rule (1) is received, Customs officer may allow passage for such goods, after receiving guarantee of airlines operator without

any cash deposit for airplane, helicopter or its engines thereof, and after receiving deposits equivalent to 0.5 percent of the value of goods for spare parts of airplane and helicopter and 5 percent of the value for the other goods.

If Prabhu Helicopter provides the guarantee then no cash deposit is required to be made at the time of sending engine for repairs.

As per Rule 7(3), goods exported to foreign country for repair shall have to be brought back within three months and Customs duty is chargeable on the expenses involved in such repair or on the price of the spare parts which are replaced. The chargeable Customs duty will be deducted from the amount of the Customs deposit furnished and the balance of the deposit will be refunded. Further, as per Rule 7(4), In case time limit prescribed in sub rule (3) for bringing back such goods after repair is inadequate, an application accompanied with documentary evidence of such inadequacy shall be submitted to the Customs officer. The Customs officer may, if he so deems appropriate, extend the time limit by a period not exceeding three months. In case the additional time limit is inadequate, the Customs officer should write to the Director General of the Department of Customs with the reasons and in case the Director General approves the extension of the time limit, the Customs officer should extend the time accordingly.

As question is silent about the application made by the importer for extension of time limit as per Rule 7(4), therefore as per Rule 7(5), if the goods exported for repair are not brought back within the time limit prescribed under sub-rule (3) and (4) but brought back after the lapse of time limit, the deposited amount if any shall be seized and such goods shall be treated as fresh import and Customs duty shall be chargeable accordingly.

*Computation of Custom Duty to be paid at the time of import*

Particulars	Note	Amount
Engine Value	US \$ 2000000 @ 112.50	225,000,000
Repair Cost	US \$ 200000 @ 112.50	22,500,000
Total Value		247,500,000
Custom Duty	14%	34,650,000

c)

i) *Calculation of VAT Receivable/Payable for the month of Bhadra 2078*

Particulars	VAT Rs.
Opening VAT	0
Input VAT	130,000
Total VAT receivable	130,000
Output VAT (WN 1)	65,000
<b>VAT receivable</b>	<b>65,000</b>

ii) *VAT refund and claim*

The export value is 66.67 % during the month. The export value in this month is more than 40% of the transaction, the company can claim the amount for a refund of Rs. 65,000 while filling the VAT return instead of carrying forward.

Further, the company has to pay the tax amount of Rs. 1,30,000 before filing the VAT return under section 8(3) as calculated in Working note 3. For this, the deposit should be made specified revenue head. The company can't adjust this amount against the receivable. This amount related to the transaction up to Bhadra, created the liability on Ashwin, 2078. So, this paid amount will

be carried forward but limited to the sales ratio. Amount of Rs. 1,08,333 ( $130,000 \times 83.33\%$ ) can be claimed as input while filing the VAT return for the month of Aswin, 2078.

**Working Note 1: Calculation of Output VAT**

Sales	Sales amount	VAT	Remarks
Local Sales	5,00,000	65,000	
Local tea leaves sales	5,00,000	0	VAT exempt
Export	20,00,000	0	0 %
<b>Total Output</b>	<b>30,00,000</b>	<b>65,000</b>	

**Working Note 2: Calculation of Input VAT**

The Tea State has no taxable items for claiming Input VAT excepts for building construction, so, the input VAT is

VAT Paid on Construction material during the month of Bhadra only Rs. 1,56,000 (i.e.  $12,00,000 \times 13\%$ )

VAT Rules 40(4) states that if purchase items are used for VAT exemption. In case a taxpayer carrying out the transactions of both taxable and tax-exempt goods or services fails to establish the direct relationship of the purchased or imported goods with the sale of taxable goods or services, such taxpayer may deduct the amount of tax paid on their purchases or imports by calculating the proportion of the value of taxable transaction out of the total sale value. The building is used for exempted tea as well as taxable tea. So, VAT can be claimed as input proportionately.

Vat Exempt Sales ratio is 16.67 % ( $5,00,000/30,00,000$ )

So, Input VAT is 1,30,000 ( $156000 \times (100\% - 16.67\%) = 83.33\%$ )

Section 8(3) of the Value Added Tax Act requires that when a building, apartment or shopping complex of more than 50 lakhs rupees constructed for commercial purpose or other similar infrastructure of such type prescribed by the Department, though being constructed through an unregistered person, tax shall be deposited as if such construction is done through a registered person. In case no such deposit is made, tax shall be assessed and recovered from the person having ownership of such infrastructure.

The tea state constructed the building itself, this section is also applicable for the user of the construction work. The total construction amount exceeded the 50 lakhs, so reverse vat is applicable.

Particulars	Taxable items Rs.	Exempted items Rs.
Total purchase materials amount from VAT-registered suppliers up to Shrawan 2078	30,00,000	
Wages paid up to Shrawan 2078		5,00,000
Total purchase materials amount from VAT registered parties in Bhadra, 2078	12,00,000	
Paid to the municipality for the completion certificate	0	Not included in the construction cost
Wages payable	0	5,00,000
Total Construction cost	42,00,000	10,00,000

<b>Total without VAT</b>	<b>52,00,000</b>	
VAT to be paid as per this section		1,30,000

As given in the question that no opening VAT receivable or payable in the month of Bhadra therefore, it is assumed that VAT on purchase material up to Shrawan 2078 has already being adjusted with the output VAT of previous month. Therefore, no input VAT has been considered for such purchase in the month of Bhadra 2078.

6.

- a) *Based upon the Double Taxation Avoidance Agreements (DTAAs) with India, find out the taxability of the following transactions citing the relevant DTAA provision:* **5 marks**

S. N.	Transaction	Taxable In Nepal - Yes or No?	Relevant DTAA Provision
1.	Ministry of Foreign Affairs Nepal paid to a Training Institute in India.		
2.	Everest Bank Ltd., Nepal, a subsidiary of Punjab National Bank, India paid director's fees to its director from India, who visits Nepal only for occasional meetings.		
3.	Mr. Jaswant Singh, an Indian Resident, has a house in Kathmandu and gets rent on a monthly basis.		
4.	Mr. Gaurishankar a Nepali Resident has operating a restaurant in Pahadganj, New Delhi.		
5.	The income of Indian Airlines from the DEL-KTM-DEL route.		

- b) *Write a short note on conditions for applicability of arm's length price in international transaction.* **5 marks**

### Answer

a)

S. N.	Transaction	Taxable In Nepal - Yes or No?	Relevant DTAA Provision
1.	Ministry of Foreign Affairs Nepal paid to a Training Institute in India.	No	Article 7 (1) Business profits The profits of an enterprise of a Contracting State shall be taxable only in that State unless the enterprise carries on business in the other Contracting State through a permanent establishment situated therein. If the enterprise carries on business as aforesaid, the profits of the enterprise may be taxed in the other State but only so much of them as is attributable to that permanent establishment.
2.	Everest Bank Ltd, Nepal; a subsidiary of Punjab National Bank, India paid director's fees to its director	Yes	Article 16 Directors' fees Directors' fees and other similar payments derived by a resident of a Contracting State in his capacity as a

	from India, who visits Nepal only for occasional meetings.		member of the Board of Directors of a company which is a resident of the other Contracting State may be taxed in that other State.
3.	Mr. Jaswant Singh, an Indian Resident, has a house in Kathmandu and gets rent on a monthly basis.	Yes	Article 6(1) Income from immovable property Income derived by a resident of a Contracting State from immovable property (including income from agriculture or forestry) situated in the other Contracting State may be taxed in that other State.
4.	Mr. Gaurishankar a Nepali Resident has conducted a restaurant in Pahadganj, New Delhi.	No	Article 7(1) Business profits The profits of an enterprise of a Contracting State shall be taxable only in that State unless the enterprise carries on business in the other Contracting State through a permanent establishment situated therein. If the enterprise carries on business as aforesaid, the profits of the enterprise may be taxed in the other State but only so much of them as is attributable to that permanent establishment.
5.	The income of Indian Airlines from the DEL-KTM-DEL route.	No	Article 8(1) Shipping and air transport Profits derived by an enterprise of a Contracting State from the operation of ships or aircraft in international traffic shall be taxable only in that Contracting State.

**b) Conditions for applicability of arm's length price in international transaction:**

The following conditions need to be satisfied for the applicability of the arm's length price in the international transaction:-

- (a) **Two or More Enterprises:** international transaction is subjected to the arm's length price only in case of transaction between two or more entities called associate enterprises.
- (b) **Enterprises should be regarded as Associate Enterprises:** The provisions regarding taxation of international transactions apply in case the two enterprise are associated enterprises.
- (c) **International transaction should be carried out by the associated enterprises:** An international transaction should be carried out by the associated enterprises. To constitute an international transaction, it should be:
  - a. A transaction between two or more associated enterprises (either or both are non-resident) in nature of (i) purchase, sale or lease of intangible property, or (ii) provision of services, or (iii) lending or borrowing of money.
  - b. A transaction between two or more associated enterprises (either or both non-residents) having a bearing on the profits, losses or assets of such associated enterprises.
  - c. Mutual agreement or arrangement between two or more associated enterprises for (i) allocation or apportionment of, or (ii) continuity to, any cost or expenses incurred (or to be incurred) regarding a benefit, service or facility provided (or to be provided) to any one or more of such associated enterprises.

## Paper 7: Advanced Cost and Management Accounting

**Attempt all questions. Working notes should form part of the answer. Make assumptions wherever necessary.**

1. Surya Ltd has spare capacity in two of its manufacturing departments – Department 4 and Department 5. A five day week of 40 hours is worked, but there is only enough work for 3 days per week so that 2 days per week (16 hours) could be available in each department. Surya Ltd has sold this time to another manufacturer, but there is some concerns about the profitability of this work.

The accountant has prepared a table giving the hourly operating cost in each department. The summarized figures are as follows:

Particulars	Department 4 Rs.	Department 5 Rs.
Power Costs	640	960
Labour Costs	640	320
Overhead Costs	640	640
	1,920	1,920

The labour is paid on a time basis and there is no charge in the weekly wage bill whether or not the plant is working at the full capacity. The overhead figures are based on firm's current overhead absorption rate (fixed and variable) when the departments are operating at 90% of full capacity (assume a 50 week year). The budgeted fixed overhead attributed to department 4 is Rs. 576,000 p.a. and that of Department 5 is Rs. 806,400 p.a.

As a short term measure the company has been selling the processing time to another manufacturer @ Rs. 1,120 per hour in either department. The customer is willing to continue this arrangement and to purchase any spare time available, but Surya Ltd is considering the introduction of a new product on a minor scale to absorb the spare capacity.

Each unit of the new product would require 45 minutes in Department 4 and 20 minutes in Department 5. The variable cost of the required input material is Rs. 160 per unit. The market study indicated the following.

- With the Selling Price of Rs 1,600, the demand would be 1,500 units p.a.
- With the Selling price of Rs. 1,760, the demand would be 1,000 units p.a.
- With the Selling price of Rs. 1,920, the demand would be 500 units p.a.

You are required to:

**20 marks**

- Determine the best price to charge for the new product through optimal utilization of the spare time
- Quantify the weekly gain that the program and price should yield.

### Answer

- i) The relevant cost of producing the new product is the variable cost plus the contribution from selling the processing time to another manufacturer, it is given that, the main product will absorb 3 days per week only.

**Calculation of variable overhead rate**

	Department 4	Department 5
Normal Hours per annum (0.9 x 40 hr x 50 wks) (Hrs)	1,800	1,800
Fixed Overhead Rate / Hr (Rs.)	320 (576,000/1,800)	448 (806,400/1,800)
Total Overhead Rate/Hr (Rs.) [Given]	640	640
Thus, Variable Overhead Rate / Hr (Rs.)	320	192

**Variable Cost per Hour – New Product**

	Department 4	Department 5
Labour Cost [ Fixed – Given]	0	0
Power Cost (Rs.)	640	960
Variable Overhead Cost (Rs.)	320	192
<b>Total Variable Cost per hour – New Product (Rs.)</b>	<b>960</b>	<b>1,152</b>

**Relevant Cost per processing hour – New Product**

	Department 4	Department 5
Total Variable Cost – New product (Rs)	960	1,152
Opportunity Cost (Rs.) [ Rs. 1,120 less Rs. 960)	160	0
<b>Total</b>	<b>1,120</b>	<b>1,152</b>

**Note:** If the new product is not developed, Department 4 shall sell unused processing time at the agreed rate of Rs. 1,120 per hour. However, it is not profitable for the Department 5 to sell processing time at Rs. 1,120 per hour, since the variable cost is Rs. 1,152 and is higher than Rs. 1,120 by Rs. 32.

**Relevant cost of producing the new product**

	Rs.
Direct Material (Given)	160
Department 4 – Operating Cost (45/60 hours x Rs 1,120)	840
Department 5 – Operating Cost (20/60 hours x Rs 1,152)	384
<b>Total Relevant Cost</b>	<b>1,384</b>

**Additional contribution for various selling prices/demand levels**

Maximum Demand	1,500	1,000	500
Particulars	Rs.	Rs.	Rs.
Selling Price Per Unit	1,600	1,760	1,920
Restricted Demand	1,067*	1,000	500

Relevant Cost (Rs.)	1,384	1,384	1,384
Contribution (Rs.)	216	376	536
<b>Total Contribution (Rs.)</b>	<b>230,472</b>	<b>376,000</b>	<b>268,000</b>

Hence, Selling 1,000 units @ Rs. 1,760 per unit would achieve optimum contribution.

‘\*\*’ – Restricted to 1,067 units only (W. Note below)

**W Note: Restricted Demand**

	<b>Department 4</b>	<b>Department 5</b>
Spare hours per annum [ 2 days @ 8 hours x 50 Wks)	800	800
Hours required for 1 Unit	0.75	0.33
Number of units that can be produced [ Max]	1,066.67	2,400
<b>Hence, restricted demand would be 1,067 only.</b>		

**Computation of spare time for production of 1,000 units**

	<b>Department 4</b>	<b>Department 5</b>
Time required per unit	0.75	0.33
Total time for producing 1,000 units (Hours) [A]	750	333.33
Total available hours [B]	800	800
Spare time (in hours) [B-A]	50	466.67
Spare time per week (In hour)	1	9.33
Therefore, Department 4 can sell 1 hour per week at Rs. 1,120 per hour		

It is not profitable to sell spare capacity of 9.33 hours at the existing rate of Rs. 1,120 per hour since the variable cost is higher.

**(ii) Weekly gain from this program**

<b>Particulars</b>	<b>Rs.</b>
<b>Selling Price</b>	<b>1,760</b>
Variable Cost	
Direct Material (Given)	160
Dept 4 – Variable Operation Cost [ $\frac{3}{4}$ of Rs. 960]	720
Dept 5 – Variable Operation Cost [ $\frac{1}{3}$ of Rs. 1,152]	384
<b>Total Variable Cost</b>	<b>1,264</b>
<b>Contribution per unit</b>	<b>496</b>
Weekly Sales [1,000 units/ 50 Wks]	20
<b>Weekly Contribution from new product</b>	<b>9,920</b>



Contribution from selling 1 hour	160
<b>Total Contribution from new product</b>	<b>10,080</b>
Weekly contribution without new product [16 hours @ Rs 160]	2,560
<b>Additional gain from introduction of new product</b>	<b>7,520</b>

2.

- a) *Himalayan Preserves produces Jams, Marmalade and Preserves. All the products are produced in a similar fashion; the fruits are cooked at low temperature in a vacuum process and then blended with glucose syrup with added citric acid and pectin to help setting. Margins are tight and the firm operates a system of standard costing for each batch of Jam. The standard cost data for a batch of raspberry jam are*

<i>Fruits extract</i>	<i>400 kgs @ Rs. 16 per kg.</i>
<i>Glucose syrup</i>	<i>700 kgs @ Rs. 10 per kg.</i>
<i>Pectin</i>	<i>99 kgs. @ Rs. 33.2 per kg</i>
<i>Citric acid</i>	<i>1 kg at Rs. 200 per kg.</i>
<i>Labour</i>	<i>18 hours @ Rs. 32.50 per hour.</i>
<i>Standard processing loss 3%.</i>	

*The climate conditions proved disastrous for the raspberry crop. As a consequence, normal prices in the trade were Rs. 19 per kg for fruits abstract although good buying could achieve some savings. The impact of exchange rates for imported sugar plus the minimum price fixed for sugarcane, caused the price of syrup to increase by 20%.The retail results for the batch were –*

<i>Fruit extract</i>	<i>428 kgs at Rs. 18 per kg.</i>
<i>Glucose syrup</i>	<i>742 kgs at Rs. 12 per kg.</i>
<i>Pectin</i>	<i>125 kgs at Rs. 32.8 per kg.</i>
<i>Citric acid</i>	<i>1 kg at Rs. 95 per kg.</i>
<i>Labour</i>	<i>20 hrs. at Rs. 30 per hour.</i>
<i>Actual output was 1,164 kgs of raspberry jam.</i>	

*You are required to:*

**10 marks**

- Calculate the ingredients planning variances that are deemed uncontrollable.*
  - Calculate the ingredients operating variances that are deemed controllable.*
  - Calculate the mixture and yield variances.*
  - Calculate the total variances for the batch*
- b) *ABC Ltd. manufactures two products, P<sub>1</sub> and P<sub>2</sub>. The product P<sub>1</sub> is a low-volume item and its sales are only 5,000 units per annum. The product P<sub>2</sub> is a high-volume item and its sales are 20,000 units per annum. Both products require two direct labour-hours for completion. The company works 50,000 direct labour-hours each year as given below:*

	Hours
Product P <sub>1</sub> : 5,000 units × 2 hours	10,000

Product P2 : 20,000 units × 2 hours	40,000
Total Hours	50,000

Details costs for materials and labour for each product (per unit) are given below:

*Product*

	<i>P1</i>	<i>P2</i>
<i>Direct Materials</i>	25	15
<i>Direct Labour (at Rs. per hour)</i>	10	10

The company's total manufacturing overhead costs are Rs. 75,000 per annum. The company has analysed its operations and has determined that five activities act as cost driver in the incurrence of overhead costs. Data relating to the five activities are given below:

Number of events or transactions

<i>Activity</i>	<i>Traceable costs (Rs.)</i>	<i>Total</i>	<i>Product P1</i>	<i>Product P2</i>
<i>Machine set-ups</i>	230,000	5,000	3,000	2,000
<i>Quality inspections</i>	160,000	8,000	5,000	3,000
<i>Production orders</i>	81,000	600	200	400
<i>Machine-hours worked</i>	314,000	40,000	12,000	28,000
<i>Material receipts</i>	90,000	750	150	600
<i>Total</i>	875,000			

You are required to compute per unit cost for each product using:

**10 marks**

- i) Direct labour hour rate method for absorption of overhead costs.
- ii) Activity-based costing technique for absorption of overhead costs.

**Answer**

- a) Details of original and revised standards and actual achieved

	<b>Original standards</b>		<b>Revised standards</b>		<b>Actual</b>	
Fruit	400 Kgs × Rs. 16	Rs. 6,400	400 Kgs × Rs. 19	Rs.7,600	428 Kgs× Rs. 18	Rs.7,704
Glucose	700 Kgs × Rs. 10	Rs. 7,000	700 Kgs × Rs.12	Rs. 8,400	742 Kgs × Rs. 12	Rs. 8,904
Pectin	99 Kgs × Rs. 33.2	Rs. 3286.8	99 Kgs × Rs. 33.2	Rs. 3286.8	125Kgs× Rs. 32.8	Rs. 4,100
Citric acid	1 Kg× Rs. 200	Rs. 200	1 Kg× Rs. 200	Rs. 200	1 Kg× Rs. 95	Rs. 95
	1,200 kgs	Rs.16,886.8	1,200 kgs	Rs.19,486.8	1,296 kgs	Rs.20,803

Labour		Rs. 585.0		Rs. 585.0		Rs. 600
	1,200 kgs	17,471.8	1,200 kgs	20,071.8	1,296 kgs	21,403
Loss	36 kgs	36kgs	132			
	1,164 kgs	Rs. 17,471.8	1,164kgs	Rs. 20,071.8	1,164 Kgs	Rs. 21,403

**(i) Planning variances**

\* Fruit extract (6,400 - 7,600)

Rs. 1,200(Adverse)

Glucose syrup (7,000 - 8,400)

Rs. 1,400(Adverse)

**Total**

**Rs. 2,600(Adverse)**

\* (Std qty × Std price - Std qty × Revised Std price)

**(ii) Ingredients operating variances**

Total (19,486.8 - 20,803) = Rs. 1,316.2(Adverse)

**Ingredients Price variance**

(Revised Material Price – Actual Material Price)×(Actual Qty Consumed)

		Variance in Rs.
Fruit extract	$(19 - 18) \times 428$	428(F)
Glucose syrup	-	Nil
Pectin	$(33.2 - 32.8) \times 125$	50(F)
Citric acid	$(200 - 95) \times 1$	<u>105(F)</u>
		<u>583(F)</u>

**Usage variance**

(Std Qty on Actual Prod. - Actual Qty on Actual Prod.) × Revised Std Price/Unit

	Rs.	Variance in Rs.
Fruit extract	$(400 - 428) \times 19$	532(A)
Glucose syrup	$(700 - 742) \times 12$	504(A)
Pectin	$(99 - 125) \times 33.2$	863.2(A)
Citric acid		<u>Nil</u>
		<u>1,899.2(A)</u>

**(iii)**

**Mix Variance**

(Actual usage in std mix - Actual usage in actual mix ) × Std price

		Variance in Rs.
Fruit extract	$(432 - 428) \times 19$	76(F)
Glucose syrup	$(756 - 742) \times 12$	168 (F)
Pectin	$(106.92 - 125) \times 33.2$	600.3(A)
Citric acid	$(1.08 - 1) \times 200$	<u>16(F)</u>
		340.3 (A)

**Yield Variance**

(Actual yield – Std yield from actual output) × Std cost per unit of output

$$= (1,164 - 1,296 \times 0.97) \times 19486.8/1164$$

$$= 1,558.9(A)$$

$$\text{Labour operating variance} = 585 - 600 = 15(A)$$

iv) Total variance = Planning variance + Usage Variance + Price Variance + Labour Operating Variance

$$\text{Or, Total Variance} = (2,600) + (1,899.2) + 583 + (15) = 3931.2 (A).$$

b)

i) Computation of Product Cost using Direct Labour Hour Rate Method

The direct labour hour rate has been computed as follows:

$$\frac{\text{Manufacturing Overhead Costs}}{\text{Direct Labour Hour}} = \text{Rs. } \frac{8,75,000}{50,000} = \text{Rs } 17.50 \text{ per hour}$$

The Company's overhead rate is Rs. 17.50 per hour if direct labour hour is used as a base for assigning overhead costs.

Using this rate, the cost to manufacture each of the products is given below:

		Product	
		P1	P2
Direct Materials	Rs.	25	Rs. 15
Direct Labour		10	10
Manufacturing overhead (2 hours × 17.50 hour)		<u>35</u>	<u>35</u>
Total Cost		<u>70</u>	<u>60</u>

ii) Computation of product cost using Activity-based Costing

#### Overhead Rates by activity

Activity	Traceable Cost	Number of events or Transactions	Rate per event transaction
	(a)	(b)	(a)÷ (b)
Machine Set- ups	Rs.2,30,000	Rs.5000	Rs.46 per setup
Quality Inspections	1,60,000	8,000	20 per set up
Production Orders	81,000	600	135 per order
Machine Hours worked	3,14,000	40,000	7.85 per hour
Material receipts	90,000	750	120 per receipt
Overhead Cost per Unit of product			
Details	Product P1		Product P2
	Events or Amount		Events or Amount
	Transaction	Rs.	Transaction Rs.

Machine set-up	3,000	138,000	2,000	92,000
(at Rs.46 per set-up)				
Quality Inspection	5,000	100,000	3,000	60,000
(at Rs 20 per inspection)				
Production orders	200	27,000	400	54,000
(at Rs. 135 per order)				
Machine –hour worked	12,000	94,200	28,000	219,800
(at Rs.7.85 per hour)				
Material receipts	150	<u>18,000</u>	600	<u>72,000</u>
(at Rs. 120 per receipts)				
Total overhead cost assigned (a)		377,200		497,800
No. of units produced (b)		<u>5,000</u>		<u>20,000</u>
Overhead cost per unit (a÷ b)		Rs.75.44		Rs.24.89

Computation of Total Cost of products:

	Activity Base		Direct Labour Base	
	Product P1	Product P2	Product P1	Product P2
Direct Material	25.00	15.00	25.00	15.00
Direct Labour	10.00	10.00	10.00	10.00
Manufacturing O.H.	75.44	24.89	35.00	35.00
Total cost of Products	110.44	49.89	70.00	60.00

3.

a) Consider the following simultaneous linear equation:

$$3X_1 - 3X_3 - 12X_4 = 9$$

$$6X_1 - 3X_2 = 9$$

$$9X_1 - 6X_2 - 3X_4 = 3$$

and,

$$X_1, X_2, X_3, X_4 \geq 0$$

Required:

**10 marks**

Solve the equations using simplex method.

b) A construction company has to bid for the construction of a building. The activities and their time estimates are given below:

Activities	Optimistic (days)	Most likely (days)	Pessimistic (days)
1-2	14	17	25

2-3	14	18	21
2-4	13	15	18
2-8	16	19	28
3-4 (dummy)	0	0	0
3-5	15	18	27
4-6	13	17	21
5-7 (dummy)	0	0	0
5-9	14	18	20
6-7 (dummy)	0	0	0
6-8 (dummy)	0	0	0
7-9	16	20	41
8-9	14	16	22

The company generally submits a bid at an amount that will provide a 95% of probability of breaking-even. This probability has the standard normal variate of 1.65.

The fixed costs for the building project is Rs. 4,000,000 and the variable costs are Rs. 15,000 per day spent working on the project.

Required:

**10 marks**

- Draw a network diagram and find the critical path with expected duration.
- What should be the bid amount for the company according to its normal practice?

**Answer**

a) Introducing artificial variables in the above equations:

$$3X_1 + 0X_2 - 3X_3 - 12X_4 + 1a_1 + 0a_2 + 0a_3 = 9$$

$$6X_1 - 3X_2 + 0X_3 + 0X_4 + 0a_1 + 1a_2 + 0a_3 = 9$$

$$9X_1 - 6X_2 + 0X_3 - 3X_4 + 0a_1 + 0a_2 + 1a_3 = 3$$

$$a_1, a_2, a_3 \geq 0$$

Forming dummy objective function:

$$\text{Max } z = 0X_1 + 0X_2 + 0X_3 + 0X_4 - 1a_1 - 1a_2 - 1a_3$$

$$\text{where } a_1, a_2, a_3 \geq 0$$

**Simplex Table I:**

Basic variab les		C <sub>B</sub>	0	0	0	0	-1	-1	-1	-	
			X <sub>j</sub>								
	a <sub>j</sub>	X <sub>j</sub>	X <sub>1</sub> ↓	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	Constant	Ratio
a <sub>1</sub>	-1	R1	3	0	-3	-12	1	0	0	9	3

a <sub>2</sub>	-1	R2	6	-3	0	0	0	1	0	9	3/2
a <sub>3</sub> ←	-1	R3	9	-6	0	-3	0	0	1	3	1/3
		$\sum(X_j \times a_j) - C_B$	-18	9	3	15	0	0	0	Z = -21	

$$Z = \sum(\text{Constant} \times a_j)$$

Key column is the column having highest negative value.

Ratio for each row is derived by dividing the constant of each row with the value of key column, except for R0.

Key row is the row with minimum ratio.

Key element is the value at the intersection of key column and key row.

Simplex Table II:

Basic variables		C <sub>B</sub>	0	0	0	0	-1	-1	-1	-	
			X <sub>j</sub>								
	a <sub>j</sub>	X <sub>j</sub>	X <sub>1</sub>	X <sub>2</sub> ↓	X <sub>3</sub>	X <sub>4</sub>	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	Constant	Ratio
a <sub>1</sub> ←	-1	R1	0	2	-3	-11	1	0	-	8	4
a <sub>2</sub>	-1	R2	0	1	0	2	0	1	-	7	7
X <sub>1</sub>	0	R3	1	-2/3	0	-1/3	0	0	-	1/3	-
		$\sum(X_j \times a_j) - C_B$	0	-3	3	9	0	0	-	Z = -15	

Replacing value for key row (R3) = Old value of key row/ key element

R3	1	-2/3	0	-1/3	0	0	-	1/3
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Replacing value for other remaining row

= Element of old row – (intersecting element of old row with key column x replacing value for key row)

Replacing value for R1

Old R1	3	0	-3	-12	1	0	-	9
Intersecting element	3	3	3	3	3	3	-	3
Element of replacing row	1	-2/3	0	-1/3	0	0	-	1/3
New R1	0	2	-3	-11	1	0	-	8

Replacing value for R2

Old R2	6	-3	0	0	0	1	-	9
Intersecting element	6	6	6	6	6	6	-	6
Element of replacing row	1	-2/3	0	-1/3	0	0	-	1/3
New R2	0	1	0	2	0	1	-	7

Simplex Table III:

Basic variab les		$C_B$	0	0	0	0	-1	-1	-1	-	
			$X_j$								
	$a_j$	$X_j$	$X_1$	$X_2$	$X_3$	$X_4 \downarrow$	$a_1$	$a_2$	$a_3$	Constant	Ratio
$X_2$	0	R1	0	1	-3/2	-11/2	-	0	-	4	-
$a_2 \leftarrow$	-1	R2	0	0	3/2	15/2	-	1	-	3	2/5
$X_1$	0	R3	1	0	-1	-4	-	0	-	3	-
		$\sum(X_j \times a_j) - C_B$	0	0	-3/2	-15/2	-	0	-	$Z = -3$	

Replacing value for key row (R1) = Old value of key row/ key element

R1	0	1	-3/2	-11/2	-	0	-	4
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Replacing value for other remaining row

= Element of old row – (intersecting element of old row with key column x replacing value for key row)

Replacing value for R2

Old R2	0	1	0	2	0	1	-	7
Intersecting element	1	1	1	1	-	1	-	1
Element of replacing row	0	1	-3/2	-11/2	-	0	-	4
New R2	0	0	3/2	15/2	-	1	-	3

Replacing value for R3

Old R3	1	-2/3	0	-1/3	-	0	-	1/3
Intersecting element	-2/3	-2/3	-2/3	-2/3	-	-2/3	-	-2/3
Element of replacing row	0	1	-3/2	-11/2	-	0	-	4
New R3	1	0	-1	-4	-	0	-	3

Simplex Table IV:

Basic variabl es		$C_B$	0	0	0	0	-1	-1	-1	-
			$X_j$							
	$a_j$	$X_j$	$X_1$	$X_2$	$X_3$	$X_4$	$a_1$	$a_2$	$a_3$	Constant
$X_2$	0	R1	0	1	-2/5	0	-	-	-	31/5
$X_4$	0	R2	0	0	1/5	1	-	-	-	2/5
$X_1$	0	R3	1	0	-1/5	0	-	-	-	23/5
		$\sum(X_j \times a_j) - C_B$	0	0	0	0	-	-	-	$Z = 0$



R2	0	0	1/5	1	-	-	-	2/5
----	---	---	-----	---	---	---	---	-----

Replacing value for key row = Old value of key row/ key element Replacing value for R1

Old R1	0	1	-3/2	-11/2	-	-	-	4
Intersecting element	-11/2	-11/2	-11/2	-11/2	-	-	-	-11/2
Element of replacing row	0	0	1/5	1	-	-	-	2/5
New R1	0	1	-2/5	0	-	-	-	31/5

Replacing value for R3

Old R3	1	0	-1	-4	-	-	-	3
Intersecting element	-4	-4	-4	-4	-	-	-	-4
Element of replacing row	0	0	1/5	1	-	-	-	2/5
New R3	1	0	-1/5	0	-	-	-	23/5

Since all the values of  $\sum(X_j \times a_{ij}) - C_B$  and Z is zero or positive, optimal solution is attained. The required values are:

$$X_1 = 23/5, X_2 = 31/5, X_3 = 0, X_4 = 2/5$$

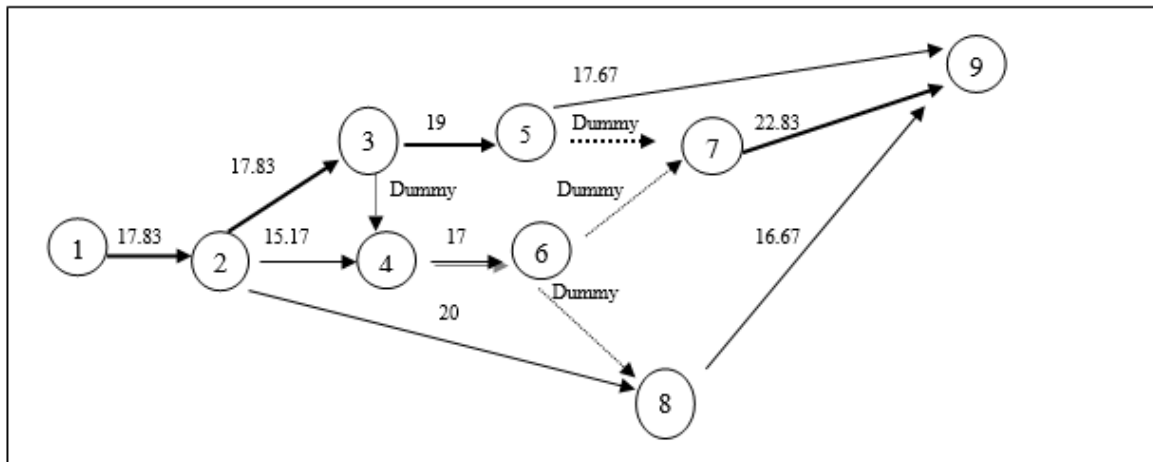
b)

i)

Activities	Optimistic (days) ( $t_o$ )	Most likely (days) ( $t_i$ )	Pessimistic (days) ( $t_p$ )	Expected Time ( $t_e$ ) $= (t_o + 4t_i + t_p)/6$	SD ( $\sigma$ ) $= (t_p - t_o)/6$	Var ( $\sigma^2$ )
1-2	14	17	25	17.83	1.83	3.35
2-3	14	18	21	17.83	1.17	1.37
2-4	13	15	18	15.17		
2-8	16	19	28	20		
3-4 (dummy)	0	0	0	0		
3-5	15	18	27	19	2	4
4-6	13	17	21	17		
5-7 (dummy)	0	0	0	0	0	0
5-9	14	18	20	17.67		
6-7 (dummy)	0	0	0	0		
6-8 (dummy)	0	0	0	0		
7-9	16	20	41	22.83	4.17	17.39

8-9	14	16	22	16.67		
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Network diagram showing critical path and its duration:



Critical path = 1-2-3-5-7-9 = 17.83+17.83+19+0+22.83 = 77.49 days

ii) Project variance = Sum of the variances of the critical activities

$$\sigma_{CP}^2 = 3.35+1.37+4+0+17.39 = 26.11$$

$$\text{Project SD } (\sigma_{CP}) = \sqrt{26.11} = 5.11$$

The time within which the building project should be completed with 95% probability of breaking even:

Normal variate (s) at 95% probability = 1.65

We know,

$$z = (T_S - T_E) / \sigma_{CP}$$

$$1.65 = (T_S - 77.49) / 5.11$$

$$T_S = 77.49 + 8.43 = 85.92 \text{ days} \sim 86 \text{ days}$$

Now,

$$\begin{aligned} \text{Bid amount} &= \text{Fixed costs} + \text{Variable costs} \\ &= \text{Rs. } (4,000,000 + 15,000 \times 86) \\ &= \text{Rs. } 5,290,000 \end{aligned}$$

4.

a) A city health center provides health and other related services to the citizens who are covered under insurance plan. The health center receives a payment from the insurance company each time any patient attends the center for consultation as under:

Consultations involving	Payment from Insurance company
	Rs.
No treatment	60

Minor treatment	250
Major treatment	500

*In addition, the adult patients will have to make a co-payment which is equivalent to the amount of payment for the respective category of treatment made by the insurance company. However, children and senior citizens are not required to make any such co-payment.*

*The health center will remain open for 6 days in a week for 52 weeks in a year. Each physician treated 20 patients per day although the maximum number of patients that could have been treated by a physician on any working day is 24 patients.*

*The health center received a fixed income of Rs. 2,25,280 per annum for promotion of health products from the manufacturers.*

*The annual expenditure of the health center is estimated as under:*

Materials and consumable (100% variable)	Rs.	22,32,000
Staff salaries per annum per employee (fixed):		
Physician	Rs.	4,50,000
Assistants	Rs.	1,50,000
Administrative staff	Rs.	90,000
Establishment and other operating costs (fixed)	Rs.	16,00,000

*The non-financial information is as under:*

*(i) Staff:*

Number of physicians employed	6
Assistants	7
Administrative staff	2
<i>(ii) Patient Mix:</i>	
Adults	50%
Children	40%
Senior Citizens	10%

*(iii) Mix of patient appointments (%)*

Consultation requiring no treatment	70%
Minor treatment	20%
Major treatment	10%

*Required:*

**(5+3=8 marks)**

- Calculate the Net income of the city health center for the next year;*
- Determine the percentage of maximum capacity required to be utilized next year in order to break even.*

- b) Divisions X and Y are two divisions in XY Ltd. Division X manufactures a component (X) which is sold to external customers and also to Division Y.*

*Details of Division X are as follows:*

Market price per component	Rs. 300
Variable cost per component	Rs. 157
Fixed costs per production period	Rs. 20,62,000
Demand from Y Division per production period	20,000 components
Capacity per production period	35,000 components

Division Y assembles a product (Y) which is sold to external customers. Each unit of Y requires two units of X.

Details of Division Y are as follows:

Selling price per unit	Rs. 1,200
Variable cost per unit:	
(i) Two components from X	2@ transfer price
(ii) Other variable costs per unit	Rs. 375
Fixed costs per production period	Rs. 13,50,000
Demand per production period	10,000 units
Capacity per production period	10,000 units

The Group Transfer Pricing Policy stipulates that

Transfers must be at opportunity cost. Y must buy the components from X.

X must satisfy the demand from Y before making external sales.

- (i) Present figures showing the weighted average transfer price, per component transferred to Y and the total profits earned by X for each of the following levels of external demand of X:

External demand = 15,000 components

External demand = 19,000 components

External demand = 35,000 components

- (ii) Compute Division Y's profits when Division X has each of the above levels of demand.

(Only relevant figures need to be discussed. A detailed profitability statement for each situation is not required). **(4+3=7 marks)**

### Answer

a)

i)

- (1) Total number of patients attended

Number of patients attended per day by a physician: 20

Number of physicians employed: 6

Number of days in week 6

Number of weeks in a year 52

Total number of patients attended =  $20 \times 6 \times 6 \times 52 = 37,440$ .

- (2) Patient Mix:

Adults (50%)  $37,440 \times 50/100 = 18,720$

Children (40%)  $37,440 \times 40/100 = 14,976$

$$\text{Senior Citizens (10\%)} \quad 37,440 \times 10/100 \quad = \quad \underline{3,744}$$

$$\underline{37,440}$$

(3) Patient Appointments:

$$\begin{aligned} \text{No treatment required (70\%)} \quad 37,440 \times 70/100 &= 26,208 \\ \text{Minor treatment (20\%)} \quad 37,440 \times 20/100 &= 7,488 \\ \text{Major treatment (10\%)} \quad 37,440 \times 10/100 &= \underline{3,744} \\ &\underline{37,440} \end{aligned}$$

(4) Income from Insurance Companies:

	Number of patients	Rs	Rs.
	(A)	(B)	(A × B)
No treatment patients	26,208	60	15,72,480
Minor treatment patients	7,488	250	18,72,000
Major treatment patients	3,744	500	<u>18,72,000</u>
Total			<u>53,16,480</u>

(5) Co-payment from adult patients:

	Number of patients	Payment (Rs.)	Total payment (Rs.)
Total number of adult patients	18,720		
No treatment patients (70%)	13,104	60	7,86,240
Minor treatment (20%)	3,744	250	9,36,000
Major treatment (10%)	1,872	500	<u>9,36,000</u>
Total			<u>26,58,240</u>

(6) Net income:

	Rs.	Rs.
Payment from Insurance companies	53,16,480	
Co-payment from adult patients	<u>26,58,240</u>	
Total	79,74,720	
Other Income (fixed)	2,25,280	
Total Income (A)		82,00,000
Less: Expenditure		
Variable expenses:		
Material and consumables	22,32,000	
Fixed expenses:		
Physician's salary (6 × 4,50,000)	27,00,000	
Assistants' salary (7 × 1,50,000)	10,50,000	

Administrative staff's salary (2 × 90,000)	1,80,000	
Establishment and other operating costs	16,00,000	<u>55,30,000</u>
Total Expenditure (B)		<u>77,62,000</u>
Net Income (A – B)		<u>4,38,000</u>

ii)

**1. Contribution Analysis:**

	(Rs.)
Total Fees from Insurance Companies and adult patients	79,74,720
Less: Variable costs	22,32,000
Contribution	57,42,720
Average contribution per patient	<u>57,42,720</u> <u>37,440</u> 153.38

**2. Break-even patients:**

	(Rs. )
Fixed costs	55,30,000
Less: Fixed income	2,25,280
Net Fixed costs	53,04,720
Break-even patients = $\frac{\text{Net fixed costs}}{\text{Contribution per patient}}$	<u>53,04,720</u> <u>153.38</u> 34,585

**3. Percentage of maximum capacity required to be utilized in order to break-even**

Present Utilization: 20 patients/24 patients = 83.33% = 37,440

100% patient capacity is 37,440/0.8333 = 44,930 patients

Percentage of maximum capacity required to be utilized in order to break- even

=  $\frac{\text{Break even patients}}{\text{100\% patient capacity}} \times 100$

=  $\frac{34,585}{44,930} \times 100$

= 76.98%

, say 77%

Assumption: Patient mix and mix of patient appointments will be same in the next year.

b)

**i) Computation of Weighted Average Transfer Price**

Particulars	External Demand 15,000 Components	External Demand 19,000 Components	External Demand 35,000 Components
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Component's Transfer Price (Base)	Variable Cost	Variable Cost plus Opportunity Cost for 4,000 Components	Variable Cost plus Opportunity Cost for 20,000 Components
Variable Cost	Rs.157.00	Rs.157.00	Rs.157.00
Opportunity Cost	0	Rs.28.60 <u><math>4,000 \times \text{Rs.}143</math></u> 20,000	Rs.143.00 <u><math>20,000 \times \text{Rs.}143</math></u> 20,000
Transfer Price	Rs.157.00	Rs.185.60	Rs.300.00

Opportunity Cost for a Component is the Contribution forgone by not selling it to the market.

$$\begin{aligned}\text{Contribution} &= \text{Market Selling Price} - \text{Variable Cost} \\ &= \text{Rs.}300 - \text{Rs.}157 = \text{Rs.}143\end{aligned}$$

**Statement Showing Profitability of Division- X**

Particulars	External Demand 15,000 Components (Rs.)	External Demand 19,000 Components (Rs.)	External Demand 35,000 Components (Rs.)
Sales :			
Division-Y	31,40,000 (Rs.157 × 20,000)	37,12,000 (Rs.185.60 × 20,000)	60,00,000 (Rs.300 × 20,000)
Market	45,00,000 (Rs.300 × 15,000)	45,00,000 (Rs.300 × 15,000)	45,00,000 (Rs.300 × 15,000)
Total Revenue	76,40,000	82,12,000	1,05,00,000
Less: Variable Cost (Rs.157 × 35,000)	54,95,000	54,95,000	54,95,000
Less: Fixed Cost	20,62,000	20,62,000	20,62,000
Profit	83,000	6,55,000	29,43,000

ii) **Statement Showing Profitability of Division- Y**

Particulars	External Demand 15,000 Components (Rs.)	External Demand 19,000 Components (Rs.)	External Demand 35,000 Components (Rs.)
Selling Price per unit	1,200.00	1,200.00	1,200.00
Less: Variable Cost per unit:	314.00 (Rs.157 × 2)	371.20 (Rs.185.60 × 2)	600.00 (Rs.300 × 2)
Component –X			
Others	375.00	375.00	375.00

Contribution per unit	511.00	453.80	225.00
No. of units	10,000	10,000	10,000
Total Contribution	51,10,000	45,38,000	22,50,000
Less: Fixed Cost	13,50,000	13,50,000	13,50,000
Profit	37,60,000	31,88,000	9,00,000

5. Write short notes/Distinguish between: (5×3=15 marks)

- a) Explain briefly the main features of ERP.
- b) Define the distinctive feature of learning curve theory in manufacturing environment and explain why the cost of item decreases.
- c) Discuss the benefit accruing from the implementation of a Total Quality Management Programme in an organization.
- d) How are cost variances disposed off in a standard costing system? Explain.
- e) Explain the main characteristics of Service sector costing with example.

**Answer**

- a) The main features of ERP are as follows:
  - a. It facilitates companywide integrated information systems covering all functional areas like manufacturing, purchase, payables, inventory etc.
  - b. It performs core activities and increases customer services thereby protecting and enhancing the corporate image.
  - c. It bridges the information gap across organizations.
  - d. It offers a solution to better project management.
  - e. It allows automatic introduction of the latest technologies like Electronic Fund Transfer, Internet and Video Conferencing etc.
  - f. It eliminates business problems like shortage of material, inventory problems etc.
  - g. It provides for improving and refining the business process.
  - h. It provides complete integration of systems, not only across departments, but also across the companies under same management.
- b) As the production quantity of a given item doubled the cost, the cost of the item decreases at a fixed rate. This phenomenon is the basic premise on which the theory of learning curve has been formulated. As the quantity produced doubles, the absolute amount of cost increase will be successively smaller but the rate of decrease will remain fixed. It occurs due to the following features of manufacturing environment
  - a. Better tooling methods are developed
  - b. More productive equipment are designed and used to make the product.
  - c. Design bugs are detected and corrected.
  - d. Engineering changes decreases over time.
  - e. Earlier teething problems are overcome.
  - f. Rejections and rework tend to diminish over time.



- c) The benefits accruing from the implementation of a Total Quality Management Programme in an organization are:
- There will be increased awareness of quality culture in the organization.
  - It will lead to commitment to continuous improvement.
  - It will focus on customer satisfaction.
  - A greater emphasis on team work will be achieved.
- d) There is no unanimity of opinion among Cost Accountants regarding the disposition of variances. The following are commonly used methods for their disposition.
- Transfer all variances to Profit or Loss Account. Under this method, the stock of work in progress, finished goods and cost of sales are maintained at standard cost and variances arising are transferred to Profit or Loss Account.
  - Distributing variances on pro rata basis over the cost of sales, work in progress and finished goods stocks by using suitable basis.
  - Write off quantity variances to profit or loss account and spread price variances over to cost of sales, work in progress and finished goods. The reason behind apportioning variance to inventory and cost of sales is that they represent costs although they are derived as variances.
- e) Main characteristics of service sector are as below:
- The activities of service sector generally are labour intensive. The direct material cost is either small or non-existent.
  - Cost unit is usually difficult to define: The selection of cost units usually, for service sector is difficult to ascertain as compared to the selection of cost unit for manufacturing sector. The following table provides some example of the cost units for service sector.
    - Hotel – Room rate per day
    - Hospital – Patient per day, Room per day
    - Accounting firm – Charged out rate per hour
    - Transport – Passenger Kilometre, Quintal KM
    - Machine Maintenance – Maintenance hours provided to user department.
  - Product costs in service sector: Costs are classified as product or period costs in manufacturing sector for various reasons.

6.

- a) *A cement manufacturing company has prepared a budget for coming year showing its revenue as Rs. 900 million. It has implemented a balanced scorecard to measure and support its just-in-time production system. In the learning and growth category, it measures the percentage of employees who are cross-trained to perform a wide variety of production tasks. Internal business process measures are inventory turns and on-time delivery. The customer perspective is measured using a customer satisfaction measure and financial performance using operating income.*

*The company estimates that if it can increase the percentage of cross-trained employees by 5%, the resulting increase in labor productivity will reduce inventory-related costs by Rs. 25 million per year and will shorten delivery times by 10%. The 10% reduction in delivery times, in turn, is expected to increase customer satisfaction by 5%, and each 1% increase in customer satisfaction is expected to increase revenue by 2% due to higher prices.*

*Required:*

**(2.5+1.5+1 = 5 marks)**

- i) What is the expected increase in operating income in the coming year if the number of cross-trained employees is increased by 5%? Ignore the costs of training.
- ii) What amount would the company be willing to pay to increase the desired percentage of cross-trained employees if it is only interested in maximizing operating income in the coming year?
- iii) List out any two benefits, other than short-term profits, that the company will get from employee cross-training.
- b) A customer has approached Crystal Limited for the supply of a new product made to customer's specification. Crystal Ltd. experiences a 90% learning rate. The estimated labour time for the first unit of the product is 150 hours and the direct labour cost is 500 per hour.

Required:

(2.5+2.5 = 5 marks)

- i) Estimate labour cost of Crystal Ltd. for this order, and
- ii) After receiving the first order, if the customer places a repeat order, what will be the labour cost for the second order?

### Answer

a)

- i) Calculation of the expected increase in operating income if the number of cross-trained employees is increased by 5%:

<u>Descriptions</u>	<u>Amount (Rs. in million)</u>
Reduction in inventory-related costs	25.00
Increment in revenue due to increased customer satisfaction	<u>90.00</u>
(Rs. 900 million $\times$ 2% $\times$ 5)	
Total increment in operating income	<u>115.00</u>

- ii) Calculation of the amount to be spent to increase the percentage of cross-trained employees when the company is only interested in maximizing operating income:

Since the company is only interested in maximizing operating income, it will be indifferent between the current expenditure and expenditure of Rs. 115 million (i.e. the benefit received as increment in operating income) in cross-training.

Therefore, it can pay maximum of the amount increased in operating income; i.e. Rs. 115 million to achieve the desired increment in cross-trained employees.

- iii) Besides increasing short-term operating profits, the other benefits of cross-training are:

- It will improve employee satisfaction because of available varieties in their jobs. It can potentially lead to unanticipated productivity improvements and lower employee turnover.
- Multi-skilled employees can also understand the production process better and can suggest potential improvements.

b)

- i) Labour cost for the First Order:

Units produced	Cumulative production	Average time per unit (hours)	Total labour time
(1)	(2)	(3)	(4) = (2) $\times$ (3)
1	1	150.0	150.0
1	2	135 (90% of 150)	270.0

2	4	121.5 (90% of 135)	486.0
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Estimated labour cost for the order =  $486 \times \text{Rs. } 500 = \text{Rs. } 243,000$

Labour Cost per Unit =  $\text{Rs. } 243,000 / 4 = \text{Rs. } 60,750$

ii) Labour cost for the Second Order:

Obviously, the repeat order will be for additional four units. Thus, average labour hours for 8 units will be:

Average time per unit = 90% of Rs. 121.5 = Rs. 109.35 hours

Average time for units =  $109.35 \times 8 = 874.80$  hours

Less: Time spent on the first order = 486.00 hours

388.80 hours

Total Labour Cost for the Second Order =  $388.80 \times \text{Rs. } 500 = \text{Rs. } 194,400$

Labour Cost per Unit for the Second Order =  $\text{Rs. } 48,600 (\text{Rs. } 194,400 / 4)$

#### Alternate Solution

i) Estimated labour cost for the first order

=  $150 \text{ hours} \times 500$

= Rs. 75,000

ii) Labour cost for the 2<sup>nd</sup> order

Units	Avg time	Total Time	Incremental Time
1	150	150	150
2	$150 \times 0.9 = 135$	270	120 (270-150)

Labour cost for the 2<sup>nd</sup> order

Total Time for 2 orders 270

Time for 1<sup>st</sup> order 150

120

Labour cost  $120 \text{ hours} \times 500$

= Rs. 60,000

## Paper 8: Strategic Management and Decision Making Analysis

### Attempt all questions.

#### 1. Read the following and answer the questions accordingly:

*My Mother's Kitchen (MMK) was established at the heart of Kathmandu in 2010 with the slogan 'your next kitchen'. It was established with an initial capital of Rs. 10 million with 30 staff by a team of five young entrepreneurs. It served mainly Nepali food items. However, it had Indian as well as continental foods in its menu. In the initial years, its turnover was satisfactory. On an average, it served 2000 customers per month. Its net profit margin was approximately 25 percent of the sales. Its greenery environment coupled with the free Wi-Fi services along with complementary dishes attracted the customers.*

*The success of the restaurant for the first three years of its operation inspired its owners to expand its branches. In 2012, it started two new restaurants in other parts of the city. By the end of 2016, it had altogether 7 branches inside the Kathmandu valley. In 2017, MMK decided to establish the restaurants with same menu and environment in five major cities of the country: Biratnagar, Dharan, Janakpur, Birgunj and Pokhara. All the branches served the same menu.*

*In 2019, it established a separate unit to deliver food items with an App. However, two board members opined that delivery works should be outsourced to food delivery companies such as Foodmandu and Bhoj. The total number of the staff reached 543. As the number of employees grew up, they were unionized. All the restaurants were centrally directed and controlled using IT system.*

*From 2020, the restaurant started experiencing hard times. Its total sales started decreasing. Out of the 12, five restaurants were in profit, two in almost break even and the rests five in loss. Employee turnover was severe. The restaurant could not update its menu and operation management was also stagnant. The covid-19 pandemic severely affected the turnover of the restaurant.*

*At the beginning of 2021, the management decided to close down the restaurants running in loss. The union strongly opposed this decision. To settle this, the management had to pay a big amount for compensating the employees. The number of employees was reduced to 400. The management plans to offer stock ownership to the employee to restate the previous position. One of the major shareholders commented that we would not have expanded beyond four located inside the Kathmandu valley.*

#### Questions:

- a) What corporate strategies did MMK follow at different points of time? Do you think it was suitable time to adopt those strategies? Discuss. **10 marks**
- b) Enlist the major strategic decisions taken by MMK. What factors make them strategic? Do you think the outsourcing of delivery works is beneficial it? **10 marks**

#### Answer

- a) MMK followed growth strategy up to 2020 and it followed retrenchment strategy from the beginning of 2021. Growth strategy is designed to achieve growth in sales, assets, profits, or some combination. Organizations that do business in expanding industries must grow to survive. Growth enables to advantage of the experience curve to reduce the per-unit cost of products sold, thereby increasing profits.

MMK grew internally by expanding its operations. It was a suitable strategy for MMK to sustain in a competitive and dynamic business environment. However, its growth outside the valley with same menu and system seem unsuitable due to a different socio- cultural as well as economic condition of the new market.

From the beginning of 2021, MMK pursued retrenchment strategy due to its weak competitive position in some businesses that result in poor performance. MMK attempted to reduce its scope partially. It seems the same working system, procedures and menu in all the units may not have worked properly. For instance, MMK could have modified its menu and restaurant environments for different places. This strategy is useful from profitability perspective in short term. However, it may erode the overall positioning of MMK over a long period of time.

- b) Strategic decision is selecting the best strategy among alternative strategies. It is the process of evaluating strategic alternatives and making choice of them to achieve organizational goals.

The major strategic decisions of MMK are;

- Expansion inside as well as outside Kathmandu valley
- Establishment of a separate unit to deliver food items with an App.
- Management and control through IT system.
- Downsizing: closure of some units and employee cut
- Stock ownership to the employee

The above decisions are strategic since they are rare, consequential and directive. Yes, the outsourcing of delivery works is beneficial to MMK both from efficiency and effectiveness perspective. Through this, MMK products would be delivered timely and delivery costs would also remain as low as possible. Furthermore, it can focus more on its core activities and reduce investment.

2.

- a) *Years long Covid-19 pandemic forced to think whether to reduce the business to many corporate organizations but many of them have doubt regarding best option. Suggest different options suitable for retrenchment strategy.* **10 marks**
- b) *Explain the alternative business level strategies that an enterprise may consider to adopt.*

**10 marks**

### Answer

- a) Retrenchment literally, refers to reducing or downsizing. Thus, retrenchment strategy is the strategy in which organization plans to reduce the existing product line, market or business operation. Typically, retrenchment strategy involves withdrawing from certain markets or the discontinuation of selling certain products or service in order to make a beneficial turnaround. Organizations can choose this strategy through either withdrawing the product line, or reducing market segment, or selling the assets and business process. This strategy becomes appropriate if the -

- organization has weak competitive position,
- business environment is complex and threatening,
- organization aims to secure financial position through economizing the costs,
- organization has to focus only on prime or more profitable business area.

### Types of retrenchment strategy

- a. **Turnaround strategies:** Turnaround means to rotate, spin or turn. Thus, turnaround strategy means turning out, withdrawing or diminishing from a decision taken earlier in order to reverse the process of retrenchment. Turnaround strategy becomes appropriate in the following situations
- Continuous losses
  - Constant negative cash flow

- Decreasing market share
- Decline in physical facilities
- Over-manpower, high turnover of employees, and low morale
- Uncompetitive products or services
- Mismanagement in major activities

**b. Divestment strategies:** Divestment strategy involves the sale or liquidation of a portion of business, or a major division, profit centre or SBU. Divestment is usually a restructuring plan and is adopted when a turnaround becomes unsuccessful or it was ignored. Divestment strategy becomes appropriate in the following reasons:

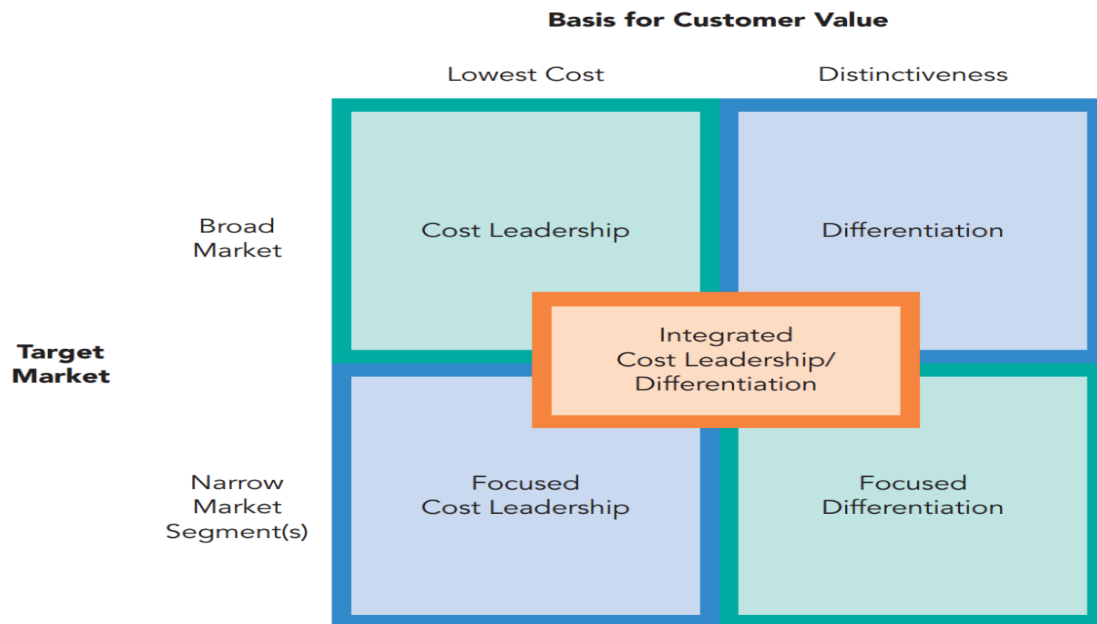
- If the business or business unit cannot be integrated within the company.
- If the organization is unable to face competition.
- If there is persistently negative cash flows from a particular business which creates financial problems to the whole organization.
- If organization requires technological up gradation to survive but the organization fails to do so because of weak financial position.
- If the organization finds a better alternative investment opportunity and company need to concentrate on it.

**c. Liquidation strategies:** Liquidation means closing down and settlement of entire organization through selling its assets. This is the critical strategy as after liquidation, organization totally loses its identity. It is considered most extreme and the last resort because it leads to serious consequences such as loss of employment, termination of future opportunities, and the stigma of failure. In general, small-scale units, proprietorship firms, and partnership firms get liquidate frequently but companies rarely liquidate. The company management, government, banks and financial institutions, trade unions, suppliers and creditors, and other agencies do not generally prefer liquidation. Liquidation strategy may be unpleasant as a strategic alternative but when a dead business is worth more than alive, it is a good proposition. Liquidation becomes appropriate strategy in the following situations:

- If the business is being unprofitable
- If the product/process has become obsolescence since long
- If the organization cannot compete in the high competition
- If the organization has faced series of failure of strategy

b) As we have seen there are 4 alternative business level strategies and adoption of each business level strategy affects functional strategies (marketing, finance, human resource, production, etc.) and changing them accordingly.

Under **cost leadership strategy**, the firm must exploit all resources optimally, exploit all sources of cost advantage, reap scale of economy, acquire efficient scale facilities, and have vigorous cost reduction. Such firm typically sells a **standard quality** product. It should design, produce, and market a comparable product more efficiently than the competitors. It should drive down cost throughout the value chain. Low cost enables the firm to compete on price if that is required. So, it is not the low cost as such but the consequences of low cost that confers competitive advantages and improve competitiveness. The profit, so generated due to low cost, can be reinvested to improve the product quality while charging the same price.



**Differentiation strategy** should have no market segmentation but mass marketing approach and it requires to be unique in the industry on some dimensions/attributes that are widely valued by buyers. (E.g. IBM) i.e. providing unique & superior value to the buyer in terms of product quality, special features or after sale service. *Walt Disney productions, Maytag Appliance, Nike athletic shoes, Apple computer, and Mercedes Benz automobiles* are the examples that adopt this strategy. Because, it is rewarded for its uniqueness with a premium price compared with that of competitors (i.e. higher than competitors).

**Focused cost leadership** strategy requires the firm to seek *cost advantage* in its *target segment* and becomes the *lowest cost producer* serving the segment, e.g., *Fadal Engineering* (machine tools to small manufacturers) and *IKEA*. Such companies have all its functional strategies devoted to reducing costs compared to competitors in that particular market segment.

Firms adopting **focused differentiation** seek differentiation action in its target segment, i.e. differentiating to meet the particular requirements of the segment in a way that allows the firm to charge premium price. In contrast to *broad scope differentiator*, focus differentiator looks for segments with special needs and meets them better. (E.g., *Apple computers-customized computers, Casey's General Stores; Morgan Stores, Inner City Entertainment: Company that builds hi quality movie theatres in inner-city locations for Afro American esp. South side of Chicago*). Such firms do everything with all their functional strategies to differentiate them from others in that particular segment.

3.

a) Discuss the major activities in project planning and design. **10 marks**

b) As project manager, how you could conduct the post project evaluation activities before dissolve the project team? **10 marks**

### Answer

- a) A project is a unique group of activities designed to achieve a specific objective with the constraints of time, cost and quality using resources (physical, financial, human, natural and informational). Putting differently, a project is a temporary endeavor, having a defined beginning and end usually constrained by date, cost and quality, undertaken to meet particular goals and objectives, usually to bring about beneficial change or added value.

This planning and design phase includes the planning of all the elements/parameters of the project so to be ready for implementation. This phase of life cycle plans resource utilization, prepares

detailed plans and estimates for time, cost and quality. In this phase, feasibility study, appraisal and detailed design are performed. On the basis of technical, financial, management, marketing, economic and environmental analysis, detailed feasibility study is carried out and lastly, detail project is designed including development of operating plans and performance standards, allocation of roles and responsibilities, determination activities and resources, and setting down work schedules. Typically, in this stage following activities are carried.

- Activities schedule (definition of activities and task sequence, time scheduling)
  - Risk plan (highlighting of possible risks and actions to mitigate them)
  - Resource plan (determination of the labor, equipment, material needed in each task/stage)
  - Cost plan (identification of the internal and external costs and their occurrence in time)
  - Quality plan (setting quality targets for the project deliverables and definition processes for quality assurance and control)
  - Issue management plan (definition of the process for identifying, assessing and resolving issues related to the project)
  - Change management plan (definition of processes for managing requests for changes that have a direct impact on the project)
  - Acceptance plan (setting of acceptance criteria for the project deliverables and definition of the processes for executing the acceptance tests)
  - Communication plan (definition of information to be distributed to the stakeholders and the selection of the appropriate distribution methods)
  - Performance standards plan
  - Defining performance indicators for output, outcomes, impacts
- b) Before the team is dissolved and begins to focus on the next project, a review is conducted to capture the lessons that can be learned from this project, often called a lessons-learned meeting or document. The team explores what went well and captures the processes to understand why they went well. The team asks if the process is transferable to other projects. The team also explores what did not go well and what people learned from the experience. The process is not to find blame, but to learn. The following process will conduct for the post project evaluation.
- Conduct a gap analysis.
  - Determine whether the project goals were achieved.
  - Determine the satisfaction of stakeholders.
  - Determine the project's costs and benefits.
  - Identify areas for further development.
  - Identify lessons learned.

Quality management is a process of continual improvement that includes learning from past projects and making changes to improve the next project. This process is documented as evidence that quality management practices are in use. Some organizations have formal processes for changing work processes and integrating the lessons learned from the project so other projects can benefit. Some organizations are less formal in the approach and expect individuals to learn from the experience and take the experience to their next project and share what they learned with others in an informal way. Whatever type of approach is used, the following elements should be evaluated and the results summarized in reports for external and internal use.

- Recognize project achievements and acknowledge people's work.



- Identify techniques and approaches that worked, and devise steps to ensure they're used in the future.
- Identify techniques and approaches that didn't work, and devise steps to ensure they aren't used again in the future.

4.

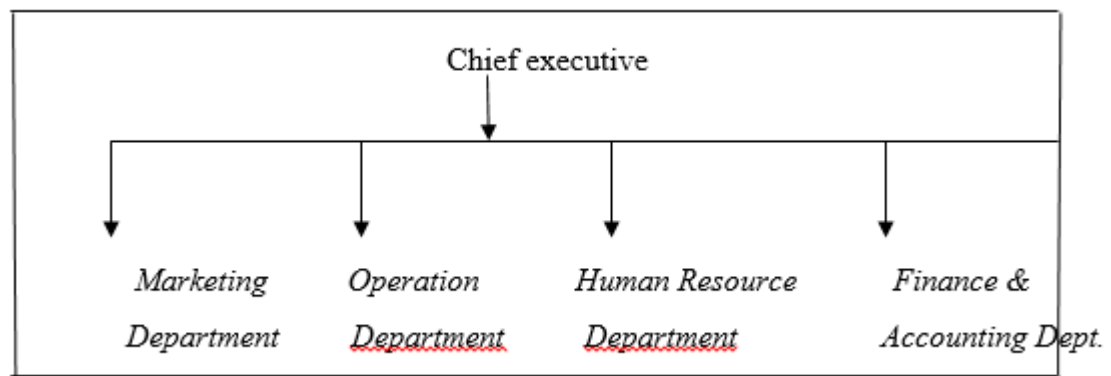
- a) *In the process of strategy implementation how do you design different organization structures as per selected corporate strategy? Elaborate.* **8 marks**
- b) *Why Strategic decision-making is the most essential thing for an organization?* **7 marks**

**Answer**

- a) Organization structures are dependent variable and organization strategy is independent variable, meaning organization strategy affects organization structure. For example, the company pursuing aggressive growth strategy may shift from entrepreneurial structure to functional organization structure or even divisional/SBU organization structure. They are described here:

**Functional organization structure**

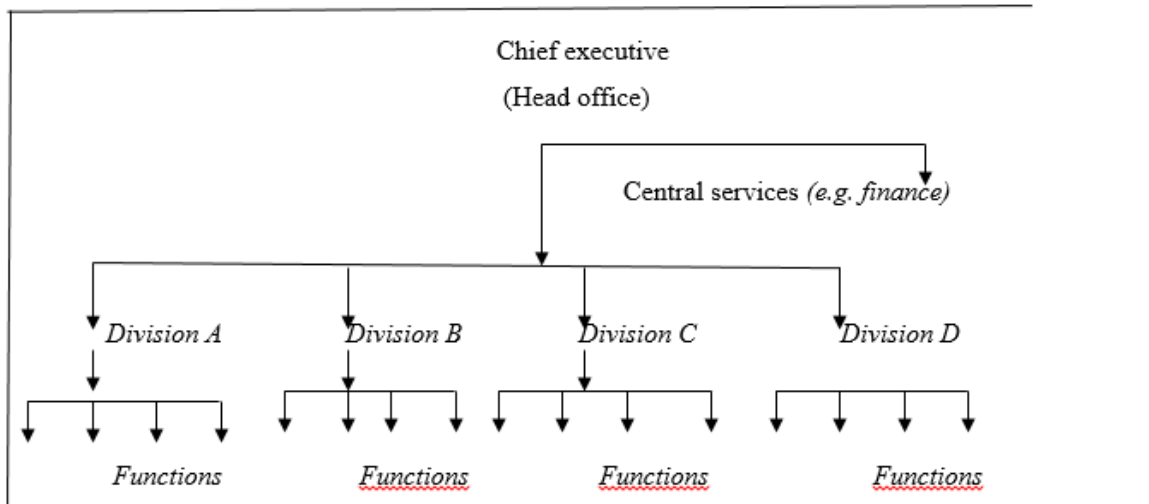
- The organization is structured into different departments on the basis of primary business functions, like marketing, production, human resource, finance, information management.
- This is typically found when smaller enterprises wants to expand.



But if the organization wants to grow further into multiple products or areas then divisional or SBU organizational structure is recommended.

**Divisional/SBU organization structure**

- When the company expands in diversity & complexity, functional structure may not be suitable. Hence, divisional (*also known as **multidivisional***) structure is suitable.
- Here the enterprise is divided into various divisions on some basis (*e.g. product, service, territory, costumer, process*).
- Each division further has its own functional departments, like marketing, production, human resource, finance & account, etc.



b) The organization must perform better in the future whether the present is better or worse. It is necessary to make strategic decisions to overcome the obstacles that come in the way of the organization's progress.

- Reduce the probability of strategic failure: This process facilitates organizational learning to take place, improve performance and organizational outcomes and reduce the probability of strategic failure or competition. It provides business intelligence reports for organizations to study and predict the future trends
- For competitive advantage: Strategic decision-making is an essential skill for today's leaders. It's not a skill that should be picked up and used once or twice and then forgotten. Strategic decision-making can provide in an organization with a competitive advantage, and it's important to maintain strategic decision-making skills and continue to develop them over time.
- Focus long term objectives: One of the most important activities any organization can carry out. Strategic decisions are decisions that require a high degree of responsibility and focus on long-term objectives. They need a lot of knowledge about many things including the processes, systems, and policies. In addition to that, decisions need to be planned before they are carried out. Power BI visuals is one such tools which is secured and loaded with options for making better and smarter decisions.
- Also involves the process of implementation: Strategic decision-making is all about making the right decisions at the right time. This is the process of making a decision and then implementing that decision. Decision-making is not about making a decision, and then not acting on it. Implementation is the process of actually doing the work.
- A key tool to drive business growth: It is the way to find out what the best way of achieving a business objective is and what the risks are. This is why organizations should have a decision-making process that includes a well-defined set of policies and rules which are adhered to by all. You can also use different data analytics tools and data discovery tools for helping you taking better decisions.

5. Write short notes on the following:

(5×3=15 marks)

- Core competencies
- Cost leadership strategy
- What is Portfolio analysis?
- PEST approach
- Strategic group analysis

## Answer

- a) Core competencies have **VRIO** elements: valuable, rare, inimitability, and organization. **Resource** is what a company possesses. **Capability** is the ability of the company to utilize the company's available resources. **Competency** is the company's skill of coordinating and synchronizing the capability to its fullest level. Competency becomes core competency when it is **valuable** to the customers, when it is **rare** (i.e. no other companies can offer at present), when it is **inimitable** by the competitors in the short run. To enjoy valuable, rare, inimitable, the company must **organize** so many things into right order. Now the total outcome is core competency by means of which the company enjoys strategic advantages, e.g. *Microsoft's windows operating system, Apple's iPhone* are their core competencies which helped them to be on top of the industry and they are enjoying competitive advantage over their competitors.
- b) The cost leadership strategy is an integrated set of actions taken to produce goods or services with features that are acceptable to customers at the lowest cost, relative to that of competitors. Under this, attempts are made to offer standardized products to the customers at price lower than the competitor. Its main aim is to reduce cost and increase the market share by providing acceptable products. The overall profit increases due to higher sales irrespective of the lower price. Costs are minimized with proper coordination among the functional units of the business. This strategy is successful when the customers are price sensitive.
- c) Portfolio analysis in strategic management is the process of evaluating the product mix in the market so that appropriate strategic decision regarding the goods and service groups can be revised to the target market. Simply, it is the strategic decision whether existing strategy need to be continued or any new strategic moves need to be selected in the particular market. It helps to prepare the detailed strategies for each part of the product mix to improve the growth rate. The major objective of the portfolio analysis is to gather optimal resources among the business activities comprising a diversified business portfolio.

Portfolio analysis facilitates to answer key questions regarding how to shape the present and future business portfolio (of product or services) in order to reduce the risk of functioning in a changing environment, and increase the effects of the implemented strategy.

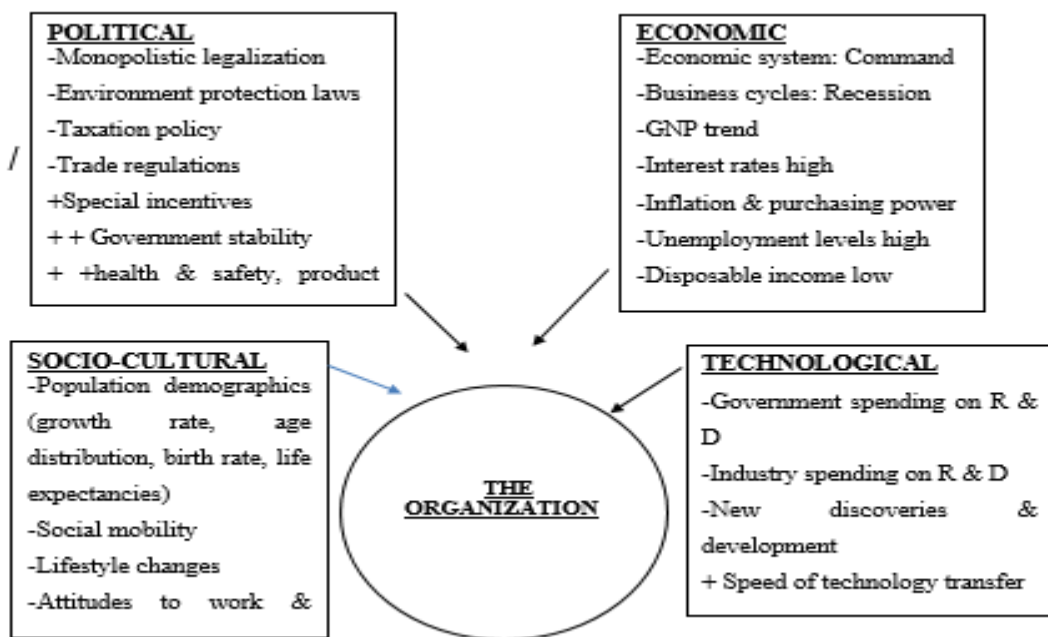
For the portfolio analysis, we can use following different methods:

- BCG matrix
  - GE matrix
  - Hofer matrix
  - McKinsey matrix
  - ADL matrix
  - Technological portfolio
- d) PEST stands for Political, Economical, Socio-cultural and Technological environment which are the key forces at macro environment. Combined effects of these macro environmental influences are more important than the individual environmental influence. Hence PEST approach sums up the influences of these macro environmental variables in terms of opportunities or threats for the organization in question.

It considers the environmental influences of these 4 areas (*in terms of opportunities & threats*), particularly the past records and based on that their future trend.

PEST analysis is used as a checklist that is combined with SAP to generate, evaluate, and select the optimum strategy for the organization.

A PEST framework of macro environmental influences



- e) A strategic group is the group of firms in an industry adapting the same or a similar strategy along the strategic dimensions. It is very useful to set the strategic groups, categorizing business units from an industry in order to understand better competitive environment. Because a company's structure and culture belongs to particular strategic group within the same industry, which tends to strong rivals, strategic groups must be analyzed within the industry.

Different firms in an industry may differ from each other with respects to several factors, such as distribution channel, market segment served, product quality, technological leadership, customer service, pricing policy, advertising policy, promotion policy, etc. These differences might have several implications for the opportunities and threats that they face. Despite these differences and their implications within most industries, it is possible to observe group of companies in which each member follows the same basic strategy as other companies in the group. For instance, hotel is an industry. There are hundreds of hotels which are the competing with each other. But it is better to categories the hotels into different groups which follow the similar strategies to understand the better competitive environment. Such analysis helps to formulate strategies differentiating than the other similar firms.

6.

- a) *What is your opinion regarding relevance of strategic thinking for professional accountant?*

**5 marks**

- b) *What is scenario planning? How is it done? Write.*

**5 marks**

**Answer**

- a) Strategic thinking is about thinking strategically for the long term goals. Strategic thinking skills for professional accountants are an excellent investment for long-term career prospects. Strategic thinking, at one level, means being able to see the big picture. For example, thinking more widely and holistically. It is all about defining where a professional accountant wish to be in the higher roles in future. Strategic decision is an ongoing process about to make an informed decision, solve a problem, or improve a process. Strategic thinking assists the professional accountant to consider a long-term value and consequences of taking a particular approach to achieve that.

Professional accountants need to assist CEOs and other senior managers for selecting best strategies for reducing cost, improve the top product lines and reduce the risks. As the financial chiefs, professional accountants need to observe every activity and think proactively for organizations' good financial health. Professional accountants need to have wide but clear picture of the financial position of the organization. They need not think only from normal accountants' perspectives, rather they need to think for balancing business, investment, expenditure and future return with wider lenses. For all these things, they should have strategic thinking. Thus, a career starter in the accounting field need to develop strategic thinking capacity through rigorous readings, trainings and management development programs.

- b) Scenario is carefully crafted story about the future representing a wide variety of ideas and integrating them in a way that is communicable and useful. It shows how the future might unfold and affect the business issues.

An industry scenario is a forecasted description of a particular industry's likely future. It is developed by analyzing the probable impact of future societal forces on key groups in a particular industry. The concept of scenarios as a forecasting technique was originated by Royal Dutch Shell.

Scenario planning is a structured way for organizations to think about the future. It is used for environmental analysis if the traditional forecasting techniques fail to predict the changes in environment. It is also called contingency planning.

The following process is adopted for scenario planning.

- Examine possible shifts in the natural environment and in societal variables globally.
- Identify uncertainties in each of the six forces of the task environment (i.e. potential entrants, competitors, likely substitutes, buyers, suppliers, and other key stakeholders).
- Make a range of plausible assumptions about future trends.
- Combine assumptions about individual trends into internally consistent scenarios.
- Analyze the industry situation that would prevail under each scenario.
- Determine the sources of competitive advantage under each scenario.
- Predict competitors' behaviour under each scenario.
- Select the scenarios that are either most likely to occur or most likely to have a strong impact on the future of the company. Use these scenarios as assumptions in strategy formulation.

## **Examiner's Commentary on Students' Performance in December 2021 Examinations**

This commentary has been written to accompany the published questions and answers and is written based on the observations of evaluators. The aim is to provide constructive guidance for future candidates, giving insight into what the evaluating team is looking for, and flagging difficulties encountered by candidates who attempted these questions.

### **Subject: Management Information and Control System**

#### Question No. 1

Some students had wrote about integrated system instead of ERP.

#### Question No. 2

Students have to focus on different analytical modes of DSS.

#### Question No. 3

Lack of knowledge on the major practical factors.

#### Question No. 4

Most of the students got confused on copyright and patent.

#### Question No. 5

Overall performance of candidates was satisfactory.

#### Question No. 6

Lack of Conceptual knowledge

### **Subject: Advanced Taxation**

#### Question No. 1

Most of the students did not read the question carefully and failed to take appropriate assumption regarding loss of working hours.

#### Question No. 2

- a) Few students attempt it and few had answered correctly.
- b) Poor performance though attempted by all.

#### Question No. 3

Average performance as some of the students failed to categorise it properly.

#### Question No. 4

- a. Taxable Value calculation is good. In case of Selling Price Reduction, student could not give decision.
- b. Mistake in partial /extra load /unload.Return journey revenue was wrongly calculated in most cases.

#### Question No. 5

Overall performance of candidates was satisfactory.

#### Question No. 6

- a. Average performance as some of the students failed to categorize it properly
- b. Lack of Conceptual knowledge.

**Subject: Advanced Cost and Management Accounting**

Question No. 1

Students were lacking conceptual knowledge.

Question No. 2

Overall performance of candidates was satisfactory.

Question No. 3

Overall performance of candidates was satisfactory.

Question No. 4

Fairly Answered

Question No. 5

Overall performance of candidates was satisfactory.

Question No. 6

Students require more practice.

**Subject: Strategic Management and Decision Making Analysis**

Question No. 1

Students should focus on how to prepare and select strategies to improve organized performance.

Question No. 2

Overall performance of candidates was satisfactory.

Question No. 3

Students need to prepare more specifically. Mostly, students' answers were found nonspecific. Poor content and lack in justification.

Question No. 4

The way of presenting answer was satisfactory. But lack of knowledge on subject matters is alarming.

Question No. 5

Overall performance of candidates was satisfactory.

Question No. 6

Overall performance of candidates was satisfactory.