

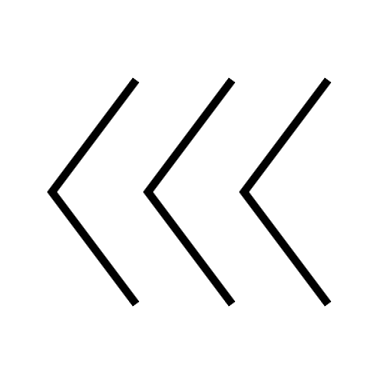
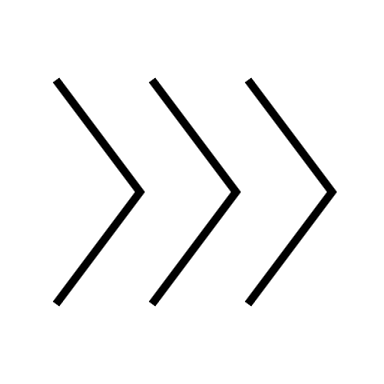
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

Mid Spring Semester Examination 2023-24

Date of Examination: 16.02.2024, Session: AN, Duration: 2 Hrs Full Marks: 100, Subject No.: EP61201 Subject: Entrepreneurship Essentials Department/Center/School: RMSoEE, Specific charts, graph paper, log boo, required: Nil, Special Instructions (if any) : Presented below

**Answer all questions. Answer precisely. Do not reproduce questions in the answer script.**

**Leave some space at the left margin. Do not use the same numbering system for listed answers and multi-level lists to avoid confusion.**

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**Read the following story and answer the three questions following it.**

1. Sameer, an engineering enthusiast, graduated with a degree in mechanical engineering from IIT Kharagpur. 2. *Despite lacking a formal business background*, he harboured a dream of creating a socially responsible manufacturing company. 3. His journey began with self-*education on business principles* and *networking with industry experts*.
2. *4. With limited funds,* Sameer began creating a new venture by establishing a manufacturing company specializing in producing innovative products. 5. He *learned* key aspects of successfully launching and running a new venture from blogs, podcasts, and YouTube talk shows. 6. Realizing that one of the key factors for success is product-market fit, for which building a prototype and getting it evaluated by potential customers is a must, he started building minimum viable prototypes. 7. Once the prototype was acceptable to potential customers, he put in place the required infrastructure by raising *finance from friends and relatives initially* and then from an angel investor.
3. Recognizing that merely *understanding engineering and manufacturing processes* was not sufficient for success, Sameer immersed himself in learning about production planning, supply chain management, and quality control. 9. He attended workshops, sought mentorship, and embraced a continuous learning mindset.
4. Despite the challenges, Sameer's dedication to *ethical standards*, coupled with his ability to *adapt and learn,* propelled his manufacturing company to success. 11. Through strategic partnerships and community engagement, he grew his business to an appreciable *size without relying on either borrowed capital or VC funding*.
5. Sameer is now embarking on a rapid growth path, for which purpose he has hired Sumi, a *professional CEO*. 13. On Sumi’s advice, Sameer pitched before venture capital enterprises and raised ₹10 crore to meet funding requirements for growth. 14. The company hired trained manpower in production, quality control, and after-sales services. 15. It also collaborated with established logistic companies for the timely delivery of goods and with e-commerce platforms to facilitate online shopping by its customers. Sumi focuses her energy and talent on innovation and explores the evolving aspirations of customers. 16. She plans her days to achieve *work-life balance* and network with friends in the industry.
6. Unlike competitors, the company leverages data analytics to gain insights into market trends, customer preferences, and operational efficiencies. 18. By making informed decisions based on data, Sumi and Sameer optimize their strategies, ensuring they are always aligned with the evolving needs of their target markets.
7. Sameer emphasized *integrity and ethical standards*, ensuring transparency and fairness in all his dealings. 20. His commitment to honesty and ethical practices not only built trust with clients but also attracted a team of like-minded professionals, helping to build a loyal and repeatable customer base. 21. With constant innovation and customer feedback, the company beat the existing players and emerged as the industry leader.
8. Identify the complete list of myths that are busted in the above story. Answer in a bulleted list. Answer comprehensively. [10]
9. *Entrepreneurs are born in business families* (*Despite lacking a formal business background*)
10. *Entrepreneurs are born and entrepreneurial qualities are innate* (*Despite lacking a formal business background*).
11. *Entrepreneurship cannot be taught* (i. *education on business principles… ii. coupled with his ability to adapt and learn, propelled his manufacturing company to success.).*
12. *Entrepreneurs are loners (networking with industry experts)*.
13. *One needs a lot of money to start a business (With limited funds),*
14. *One needs to approach venture capital to start a business (finance from friends and relatives initially).*
15. *The belief that understanding the technology or product is the same as understanding how to run a business (understanding engineering and manufacturing processes).*
16. *Entrepreneurs often become ruthless or deceptive, dishonest, unscrupulous to become successful* *(Despite the challenges, Sameer's dedication to ethical standards)*
17. ~~Through strategic partnerships and community engagement, he grew his business to an appreciable~~ *~~size without relying on either borrowed capital or VC funding – one funds the business either through debt or VC funding~~*~~.~~
18. *Entrepreneurs neglect personal life* (*She plans her days to achieve work-life balance and network with friends in the industry)*
19. *Women can’t cut it in the tech world**(Sumi focuses her energy and talent on innovation and explores the evolving aspirations of customers.)*

Students writing at least 8 of the above have been assigned 10 marks.

1. Where in this story does the ‘Chasm’ would feature and how Sumi has prepared to cross it? Explain unfair advantages and identify how Sameer enjoys it. Answer briefly but precisely. [5+5]

*The chasm occurs when a company embarks on a growth path, particularly while transitioning from early adopters to early majority types of customers when the expertise of an experienced CEO becomes essential. This is because early majority seeks perfection in products and the business feel challenges in managing the vendors, operations, marketing and increasing fund requirements. Sameer hires Sumi, a professional CEO, and with her help raises ₹10 crore to meet funding requirements for the growth. Also, the company hires trained manpower for production, quality control, and after-sales services. It also collaborates with established logistic companies for the timely delivery of goods and with e-commerce platforms to facilitate online shopping by its customers. Sumi focuses her energy and talent on innovation, collecting and analysing customer data to meet their evolving aspirations.*

*Unfair advantages stem from an asymmetric business model, leveraging complementary products that competitors may lack. While Sameer does not seem to possess a specific asymmetric model, his unfair advantages could stem from his academic background, ethical standards, empathy towards customers, and adeptness with digital technologies—assets his competitors may lack.*

1. Explain the founders’ dilemma and how is it related to professionally managed companies. Identify when and how Sameer might have resolved the dilemma in the story. [7+3]

*Founder's dilemma typically involves navigating the decision between retaining* ***control*** *of the company and* ***benefiting*** *from the* ***expertise*** *of an experienced CEO, especially during periods of growth. As a business reaches a certain point, it demands the expertise of a professional CEO, but the founder(s) feel insecure due to the fear that an outsider, if in control of key decisions, may fail to understand the product, market, and business processes as the founders do. At the same time, first generation founders lack the experience of growing a business.*

*Sameer hired Sumi at the crucial growth juncture helping the company preparing for the growth phase by hiring talents and raising necessary funds.*

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1. i. List five different stories discussed in the class and list five different learnings (takeaways) from them (one learning from each story). Answer in a bulleted list.

ii. State how marketing research is to be conducted for an established product by source, by data type, and by objective. Answer precisely. [5+5]

i.

1. *Dhirubhai Ambani: We learn from Dhirubhai Ambani, among numerous entrepreneurial wisdoms, that anyone can dreaming big, seeking knowledge across various spheres of business, and identifying opportunities in adversities are key factors for success.*
2. *From the story of Sophia Amoruso, we learn that perseverance and a strong will can transform adversity into success, even from the most humble beginnings.*
3. *We learn from Zepto that it is possible to outperform established industry giants through empathy and exceptional customer service.*
4. *The story of the hospital in Nepal and the use of design thinking to create 'Embrace,' saving hundreds of newborn lives, illustrates how empathy can help identify and address significant challenges with innovative, cost-effective solutions.*
5. *Tilak Mehta's story demonstrates that age is not a barrier to success in startups; rather, the key lies in providing the right solution to pressing problems.*
6. *From the Theranos saga, we learn the sobering truth: you may deceive some people temporarily, but ultimately, the consequences can be severe, even resulting in a lifetime behind bars.*

*ii. Since an established product is already present in the market, our approach involves gathering* ***primary data*** *as secondary data may not offer any incremental insight over what we have. We aim to collect* ***quantitative data*** *to provide a comprehensive description of the market. Additionally, we plan to conduct causal research to gain a thorough understanding of customer perceptions towards the product helping us to formulate the right strategies.*

1. i. Comment on the value proposition of Iridium and the role of validated learning on the performance of the company (in a maximum of two sentences).

ii. You are planning to set up a company to manufacture a new herbal medicine for the treatment of gastric acidity. Prepare a value proposition canvas for the same assuming all possible factors discussed in the class. [5+5]

1. *The only element in the value proposition of Iridium Inc. was to offer communication from anywhere to anywhere. However, the company failed to conduct* ***customer validation*** *as regards affordability of its services, the efficacy of the technology, and the conveniences of using it, none of which were suitable to customers and eventually led to its failure.*

ii.

Jobs

Get rid of gastric acidity.

Pains

Efficacy of existing medicines is low.

Known side effects.

There are reports of toxicity of existing medicines.

Gains

Want some bonuses.

Gains

Add phytochemicals, micronutrients or vitamins.

Pain reliever

Natural ingredients-based herbal medicines

Higher efficacy – lasts longer.

Immediate relief.

No side-effects

Pain reliever

A herbal medicines

1. Given below are the operational data of a company for the year 2022-23 and some balance sheet data as of 31.03.2023. **[Please do not solve on question paper]**
2. Prepare the profit and loss statement for the year 2022-23, the balance sheet as of 31.03.2023, and the cash flow statement for the year 2022-23. [20+10+10 = 40]

1. Comment on the financial performance and sustainability of the company based on the data for the years 2021-22 and 2022-23 by pointing out the strong and weak points. Answer in not more than two sentences.

[5]

1. Notice the operating cycle of the company for the years 2021-22 and 2022-23 and furnish your comments on the same. Answer with numerical values in Rupees. [5]

|  |  |
| --- | --- |
| Table 1: Operational data for the year 2022-23 and some balance sheet data as of 31.3.2023 (all values are in Rupees) | |
| Sale of goods | 12,000 |
| Company pays dividends during the year | 100 |
| Purchase of equipment | 1,600 |
| Salary | 1,200 |
| Construction of factory shed | 450 |
| Closing stock | 550 |
| Transportation expense | 115 |
| Legal expense | 35 |
| Purchase of goods | 7,300 |
| Insurance | 55 |
| Amortization of capitalized expenses | 100 |
| Repayment of bank loan | 500 |
| Trade Receivables | 750 |
| Telephone bill payment | 15 |
| Stationeries | 12 |
| Purchase of telephone | 35 |
| Electricity bill payment | 100 |
| Sale of old machine (book value: 350) | 350 |
| Interest on bank loan | 200 |
| Founders contribute to new equity capital | 500 |
| Audit fees | 25 |
| Maintenance | 180 |
| Fresh long-term loan raised | 200 |
| Trade Payables | 310 |
| Traveling expenses | 115 |
| Company pays income tax @ 20% |  |
| Outstanding in short term loan | 865 |
| Depreciation rate for building @ 5% |  |
| Depreciation rate for machinery @ 10% |  |
| Sale of building (book value: 150) | 150 |
| Advertisement expense | 130 |

Table 2: Balance sheet as of 31.03.2022

|  |  |  |  |
| --- | --- | --- | --- |
| **Assets** | ₹ |  | Blank format for Cash Flow Statement |
| *Current Assets* |  |  | ***From operating activities*** |
| Cash in hand and Bank | 542 |  | Net profit |
| Closing stock | 410 |  | Depreciation & amortization |
| Trade Receivables/Sundry Debtors | 375 |  | Change in inventory/ stock |
| Prepaid expenses | 0 |  | Change in accounts receivable |
| **Total current assets** | **1327** |  | Change in accounts payable |
|  |  |  | Subtotal |
| *Non-current assets/ Fixed assets* |  |  |  |
| Land | 1550 |  | ***From investment activities*** |
| Building | 900 |  | Purchase of building assets |
| Plant & Machinery | 2580 |  | Sale of building assets |
| Capitalized expenses | 1000 |  | Purchase of machinery |
| **Total non-current assets** | **6030** |  | Sale of machinery |
| **Total assets** | **7357** |  | Subtotal: |
|  |  |  |  |
| **Equity and Liabilities** |  |  | ***From financing activities*** |
| *Owner's Equity* |  |  | Change in long-term loan |
| Fully paid-up equity share capital | 2500 |  | Change in short-term loan |
| Reserves and Surplus(Other equity) | 407 |  | Change in equity |
| **Total of Owners' Equity** | **2907** |  | Dividend |
| *Short term liabilities* |  |  | Subtotal: |
| Trade Payables/ Sundry Creditors | 450 |  | Total cash flow during the year |
| Short term loan from bank | 1500 |  |  |
| **Subtotal** | **1950** |  | Balance of cash in last year's balance sheet |
| *Long term liabilities* |  |  | Net cash as of 31.03.2023 |
| Long term loan | 2500 |  |  |
| **Subtotal of liabilities** | **4450** |  |  |
| **Total Equity & liabilities** | **7357** |  |  |

**Solution**

|  |  |
| --- | --- |
| **Profit & Loss statement for the year 2022-23** | |
| Gross Profit |  |
| Sales | 12,000 |
|  |  |
| Total income | 12,000 |
|  |  |
| Cost of goods sold |  |
| Opening stock | 410 |
| Purchase | 7,300 |
| Goods available to sell | 7,710 |
| Closing stock | 550 |
| Cost of goods sold | 7,160 |
|  |  |
| Gross Profit | 4,840 |
| Depreciation |  |
| **Building** |  |
| Value as per last balance sheet | 900 |
| Purchase during the year | 450 |
| Subtotal | 1,350 |
| Sold during the year | 150 |
| Total | 1,200 |
| Depreciation | 60 |
| Closing value of building Net value of building | 1,140 |
|  |  |
| Machinery |  |
| Value as per last balance sheet | 2,580 |
| Machine | 1,600 |
| New truck | 0 |
| Telephone | 35 |
| Purchase during the year | 1,635 |
| Subtotal | 4,215 |
| Sold during the year | 350 |
| Total | 3,865 |
| Depreciation | 386.5 |
|  |  |
| Net value of machinery/ Book value | 3,479 |
| Total depreciation | 447 |
|  |  |
| Operating expenses | 2,529 |
| Operating profit | 2,312 |
| Interest | 200 |
| **Profit before tax** | **2,112** |
| Income tax @20% | 422 |
| **Net Profit** | **1,689** |
| Dividend | 100 |
| **Retained profit** | **1,589** |

|  |  |  |
| --- | --- | --- |
| **Balance Sheet as of** | **31.03.2022** | **31.3.2023** |
| **Assets** |  |  |
| **Current Assets** |  |  |
| Cash in hand and Bank | 542 | 3 |
| Closing stock | 410 | 550 |
| Trade Receivables/Sundry Debtors | 375 | 750 |
| Prepaid expenses | 0 | 0 |
| **Total current assets** | **1327** | **1,303** |
|  |  |  |
| **Non-current assets/ Fixed assets** |  |  |
| Land | 1550 | 1550 |
| Building | 900 | 1,140 |
| Plant & Machinery | 2580 | 3,479 |
| Capitalized expenses | 1000 | 900 |
| **Total non-current assets** | **6030** | **7068.5** |
| **Total assets** | **7357** | **8,371** |
|  |  |  |
| **Equity and Liabilities** |  |  |
| **Short term liabilities** |  |  |
| Trade Payables/ Sundry Creditors | 450 | 310 |
| Short term loan from bank | 1500 | 865 |
| **Sub total** | **1950** | **1,175** |
| **Long term liabilities** |  |  |
| Long term loan | 2500 | 2,200 |
| **Sub total of liabilities** | **4450** | **3,375** |
|  |  |  |
| **Owners' Equity** |  |  |
| Fully paid up equity share capital | 2500 | 3,000 |
| Reserves and Surplus/Retained earnmings | 407 | 1,996 |
| **Total of Owners' Equity** | **2907** | **4,996** |
| **Total Equity & liabilities** | **7357** | **8,371** |

|  |  |
| --- | --- |
| **Cash Flow Statement** | |
| From operating activities | |
| Net profit | 1,689 |
| Depreciation & amortization | 547 |
| Change in inventory/ stock | -140 |
| Change in accounts receivable | -375 |
| Change in account payable | -140 |
| Sub total | **1,581** |
|  |  |
| From investment activities |  |
| Change building | -450 |
| Sale of building | 150 |
| Machinery | -1,635 |
| Sold machine | 350 |
| Sub total | **-1,585** |
|  |  |
| From financing activities |  |
| Change in long-term loan | -300 |
| Change in short-term loan | -635 |
| Change in equity | 500 |
| Dividend | -100 |
|  | -535 |
| Total cash flow | **-539** |
|  |  |
| Balance of cash in last year balance sheet | 542 |
| Net balance | **3** |

6.*ii. The company has been generating profits, but its cash flow reveals an inefficiency in recovering sales proceeds (evident from higher receivables). If this trend persists, the company will soon face a shortage of funds, ultimately leading to closure. Additionally, the decreasing ‘payables’ balance or ‘trade creditors’ suggests a loss of confidence in the company.*

*iii. The cash conversion cycle for 2021-22 and 2022-23 indicates a growing cycle duration, signifying a prolonged period for money to return to the company. This prolonged cycle threatens to deplete the company's funds and may result in failure.*

*Cash conversion cycle for*

*For the year 2021-22: 410+375 – 450 = 335*

*For the year 2022-23: 550+750 – 310 = 990*