

SECTION – AThere are **FOUR** questions in this section. Answer any **THREE**.

1. (a) Explain the purposes and location of the following lathe elements. (13)
 - (i) Half nut (ii) Change gearbox (iii) Reversing unit (iv) Swivel plate
- (b) Explain the Two feed method and Taper turning attachment method of taper turning with necessary sketches. (13)
- (c) What are the limitations of the kinematic diagram? Discuss the methods of cutting multi start threads. (13)
- (d) Explain briefly the dimensions of a lathe machine. (7 $\frac{2}{3}$)
2. (a) What are the differences between the live center and dead center? Explain Face plate and Lathe Dog in detail. (13)
- (b) Discuss the principle helical gear cutting process with necessary diagram. (13)
- (c) Discuss the types of milling machine in detail. (13)
- (d) List the advantages of turret lathe over a general purpose engine lathe. (7 $\frac{2}{3}$)
3. (a) How do you understand, the cutting by gear shaper produces involute profile in the gear tooth? Explain briefly with necessary sketches. (13)
- (b) What are motions involved in gear shaper for cutting spur gear? Explain them briefly. (13)
- (c) Explain the effect of stiffeners on rigidity of the bed ways of lathe structure. What should be the optimum weight to rigidity ratio of bed ways of lathe structure? Justify your answer. (13)
- (d) What are the requirement of machine tool structure? (7 $\frac{2}{3}$)
4. (a) What are the motions involved in gear hobbing machine for cutting helical gears? Explain briefly. (13)
- (b) Explain the effect of the type of bearing, pre-loading of bearing and location of bearing on spindle performance. (13)
- (c) Explain briefly the types of acceptance test? Also explain a method for checking the accuracy of a gear shaper. (13)
- (d) List the advantages and disadvantages of Multiple-tool shaping cutter head. (7 $\frac{2}{3}$)

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SECTION - B

There are **FOUR** questions in this section. Answer any **THREE**.

5. (a) Why is GP generally applied for stepped regulation of speed? Explain. **(11 $\frac{2}{3}$)**
- (b) A four stage, 16-step, speed box with $\eta_{\text{min}} = 32$ and $\Phi = 1.41$ is powered by a two-speed (1500/750) ac motor. Draw the structural diagram. **(35)**
6. (a) 'The difference in the number of teeth of adjacent gears of a cluster must be at least 4' – Validate the statement with necessary assumptions. **(20)**
- (b) What is the transmission ratio between the driving and driven shaft in a Wuelfel-Kopp tourator? Explain with a necessary diagram. **(20)**
- (c) Explain the first basic principle for designing a sliding type cluster gear. **(6 $\frac{2}{3}$)**
7. (a) Compare and contrast the operating principles of screw pumps and gear pumps in the context of fluid transfer applications. Discuss the key design features, advantages, and limitations of each pump (external and internal) with necessary sketches. **(30)**
- (b) What are the basic functions of clamping? State the general principles to be followed for the design of locators. **(16 $\frac{2}{3}$)**
8. (a) Define 'grade' of a wheel? What are the factors that influence the selection of grade? **(10)**
- (b) What information is necessary for selecting a grinding wheel for a specific job? List the characteristics that indicate the wheel selected was not of the ideal grade. **(28)**
- (c) Discuss the advantages of radial drill press over upright drill press. **(8 $\frac{2}{3}$)**
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BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA

L-4/T-2 B. Sc. Engineering Examinations 2022-2023

Sub: **IPE 427** (Marketing Management)

Full Marks: 210

Time: 3 Hours

The figures in the margin indicate full marks.

USE SEPARATE SCRIPTS FOR EACH SECTION

SECTION – A

There are **FOUR** questions in this section. Answer any **THREE** questions.

1. (a) Evaluate the various factors that impact Customer-Perceived Value (CPV), drawing from relevant theories and empirical evidence. (6)
 - (b) Identify and explain the six categories of perceived risk that can potentially affect a consumer's purchase decision, providing detailed examples for each category. (7)
 - (c) Which methodologies and standards are suggested for conducting a thorough assessment of marketing strategies, and how can companies take proactive measures to tackle challenges and adjust strategies in light of these evaluations? (10)
 - (d) In the context of global markets, discuss the specific challenges and strategic considerations companies might face when entering a new country, considering factors such as cultural adaptation, pricing strategies, and the various modes of market entry. Additionally, highlight how these challenges differ for companies selling mass consumer goods, business goods, and those catering to nonprofit and governmental markets. (12)
2. (a) Explain the concept of sampling in marketing research. What are the different sampling techniques available, and how do marketers determine the most suitable method for their research? (6)
 - (b) Reflect on various consumer behavior subjects pertinent to business-to-consumer (B-to-C) marketing. How could these concepts be translated and utilized within business-to-business (B-to-B) contexts? (7)
 - (c) Compare and contrast qualitative and quantitative research methodologies in the context of marketing research. Discuss the strengths and weaknesses of each approach and provide examples of situations where one method may be more suitable than the other. (10)
 - (d) Analyzed the challenges associated with demand forecasting in dynamic and uncertain market environments. Discuss how factors such as seasonality, market volatility, and changing consumer preferences impact the accuracy of demand forecasts. Propose strategies that companies can employ to mitigate these challenges and improve the reliability of their demand forecasting processes. (12)

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3. (a) Discuss the significance of customer value, satisfaction, and loyalty in building long-term relationships between companies and their customers. (6)
- (b) Analyzed the strategies companies can employ to attract and retain customers, reduce customer churn, and increase customer loyalty. Discuss the role of customer relationship management (CRM) and customer value management (CVM) in these strategies. (7)
- (c) Suppose a company is planning to launch a new beverage in the market. Briefly describe the market segmentation process for this upcoming product. (10)
- (d) Discuss the major psychological processes that influence consumer responses to the marketing program, including motivation, perception, and learning. Provide examples to demonstrate how marketers can apply knowledge of these processes to create effective marketing campaigns. (12)
4. XYZ Motors, a renowned automobile manufacturer with a long history of producing reliable and durable vehicles, is facing unprecedented challenges in the market. Despite its strong brand legacy, XYZ Motors is struggling to compete with newer, more technologically advanced car brands that offer innovative features and designs. In addition, changing consumer preferences towards sustainability and electric vehicles pose a significant threat to XYZ Motors' traditional combustion engine lineup. To maintain its market relevance and regain its competitive edge, XYZ Motors has decided to undergo a comprehensive brand revitalization effort. (11+12+12=35)
- (a) Design a thorough plan to analyze XYZ Motor's brand equity in the automobile market, identifying key elements like awareness, quality, loyalty, and associations, Highlight any weaknesses or gaps that need addressing for enhanced competitiveness.
- (b) Propose strategic initiatives for XYZ Motors to strengthen its brand equity, focusing on areas like innovation, engagement, communication, and customer experience. Discuss leveraging the company's heritage to craft a compelling brand proposition for modern consumers.
- (c) Develop a comprehensive brand positioning strategy for XYZ Motors to differentiate itself in the market and align with trends like electric vehicles and sustainability. Explore how this strategy aligns with XYZ Motors' values and objectives, and discuss effective communication methods to drive brand preference and loyalty.

SECTION – B

There are **FOUR** questions in this section. Answer any **THREE** questions.

5. (a) Describe the dimensions of holistic marketing with appropriate examples. (7)
- (b) List the Traditional Marketing Mix Four Ps and Modern Marketing Management Four Ps. (8)
- (c) What are the characteristics of good mission statements? How does it influence corporate strategic planning? (10)
- (d) Define the concept of marketing strategy. How does a well-defined marketing strategy contribute to a company's success in today's competitive marketplace? (10)

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6. (a) Describe the process of conducting a SWOT analysis. How can a SWOT analysis inform a company's marketing strategy and help identify areas for improvement and growth? (15)
- (b) Explain the significance of breaking the market into potential, available, target, and penetrated markets. How can understanding these market segments aid companies in formulating effective marketing strategies? (12)
- (c) What are the five brand personality traits, and how can marketers use them to create effective brand strategies? (8)
7. (a) Answer the following questions with the help of Fig. Q. 7(a). (15)

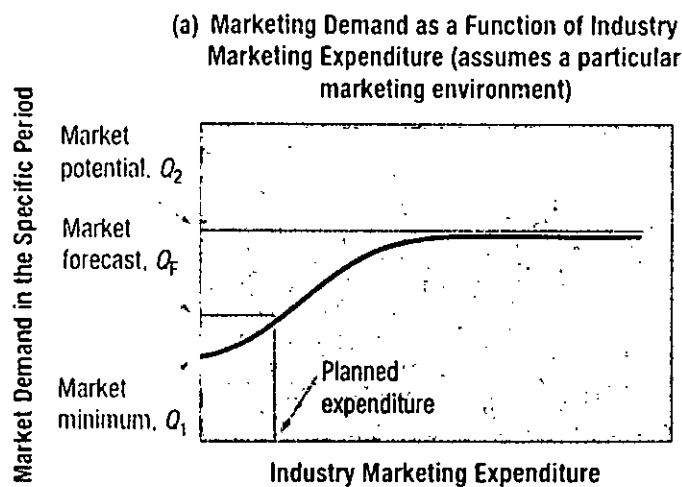


Fig. Q 7. (a): Market Demand Functions

- (i) Explain demand quantities Q_1 , Q_F , and Q_2
- (ii) Suppose the industry is in the current demand level, Q_c . How will you define the market penetration index?
- (iii) If Q_c approaches Q_F , what will happen to the market penetration index?
- (iv) What does a high market penetration index suggest?
- (v) Define the overall marketing sensitivity of demand from the figure.
- (b) What are the different research approaches and instruments available for the market researcher? Explain. (10)
- (c) Describe the seven characteristics of good marketing research. (10)
8. (a) Very often, managers conduct a customer value analysis to reveal the company's strengths and weaknesses relative to those of various competitors. What are the steps for conducting customer value analysis? (10)
- (b) Discuss the concept of market segmentation and its importance in marketing strategy development. Explain the criteria commonly used for segmenting consumer markets and provide examples to illustrate each criterion. Evaluate the benefits and challenges of market segmentation for companies operating in diverse industries, considering both consumer and business markets. (15)
- (c) Analyze the stages of the consumer decision-making process. Discuss the role of marketers in influencing consumers at each stage and provide examples illustrating effective strategies for each stage. (10)
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