

# SHREE VASISHTHA VIDHYALAYA

## ENGLISH MEDIUM (CBSE)



### Class-XII (Commerce)

#### Celebrate Responsibly — The Vasishtha Way

Dear Students of Grades XI & XII,

As the festive season approaches, Shree Vasishtha Vidhyalaya extends warm wishes for a joyful, safe, and meaningful Diwali. May this festival of lights bring peace, happiness, and renewed energy to you and your families.

As senior students and role models of the school, you are encouraged to celebrate Diwali in a manner that reflects the Vasishthian values of mindfulness, responsibility, and continuous learning. During the Diwali break, we invite you to engage in the following purposeful activities:

##### Celebrate an Eco-friendly Diwali:

Opt for traditional diyas and natural decorations. Minimize or avoid firecrackers and plastic waste, demonstrating care for the environment.

##### Read and Reflect:

Select at least one book of your choice — fiction, biography, or an inspiring non-fiction title. Reading enhances critical thinking, creativity, and self-awareness.

##### Access our Digital Library - Vasishtha Learning Space:

<https://vasishthalearningspace.my.canva.site/vasishtha-digital-library>

##### Learn a New Skill:

Explore a skill that interests you — communication, creative writing, coding, photography, cooking, or basic financial literacy. Learning together or individually strengthens knowledge and life skills.

##### Recommended platforms:

SWAYAM: <https://swayam.gov.in>

AI for All (Ministry of Education): <https://ai-for-all.in/>

##### Adopt a Healthy Habit:

Incorporate small yet consistent routines — morning exercise, digital detox, mindful eating, or journaling. These habits foster discipline, well-being, and resilience.

Let this Diwali illuminate not only your surroundings but also inspire self-growth, learning, and responsibility. Wishing all our senior students a safe, eco-conscious, and enriching festive season.

With warm regards,

Shree Vasishtha Vidhyalaya



**Happy Learning !  
Happy Diwali !**



# Assignment (2025 26)

## STD-XII Commerce

### Please Note:

1. Students are requested to complete the holiday homework in their school notebooks.
2. The school will reopen on Thursday, 6<sup>th</sup> November 2025, for all students (Classes XI-XII), as mentioned in the almanac.

### ENGLISH CORE

#### Writing Skills

1. Draft a notice inviting students to participate in various activities for the 'Diwali Eco-Celebration Week' organized by your school.
2. Write a formal invitation inviting the principal, staff, and students to attend the Diwali Mela organized by your school.
3. Write an article in 120–150 words on the topic 'Celebrating a Safe and Eco-friendly Diwali.'
4. Write a report on how your school celebrated Diwali with joy and responsibility, highlighting cultural programmes, decorations, and social awareness drives.
5. Write a letter to the editor of a national daily expressing concern about the rising pollution during Diwali and suggesting measures to control it.

#### Literature

6. What message does the story 'The Last Lesson' convey about language and patriotism?
7. How does the title 'Lost Spring' justify the theme of the story?
8. What lesson does the story 'Deep Water' teach about overcoming fear?
9. How does the story 'The Rattrap' show that goodness can bring transformation?
10. What emotions does the poet experience in 'My Mother at Sixty-Six' while leaving her mother?
11. What is the central idea of the poem 'Keeping Quiet'?
12. How does the story 'The Third Level' reflect the human desire to escape reality?
13. What is the irony in the ending of 'The Tiger King'?
14. What makes Antarctica the perfect place to understand the earth's past, present, and future?

### ACCOUNTANCY

1. A partner's capital account was credited with ₹80,000 during the year. Which of the following can be the possibility for such a credit?
  - A. Opening Balance - B. Drawings during the year - C. Loss during the year - D. Capital introduced
2. Assertion (A): Fluctuating Capital Account can show a debit balance.  
Reason (R): Losses and Drawings can be more than Capital Balance.
  - A. Both A and R are correct, and R is the correct explanation of A.
  - B. Both A and R are correct, but R is not the correct explanation of A.
  - C. A is correct, but R is incorrect.
  - D. Both A and R are incorrect
3. On 1<sup>st</sup> July 2024, A, B, and C entered partnership sharing profits and losses in the ratio 5:3:2. C was guaranteed that his share of profits will not be less than ₹60,000 p.a. Deficiency, if any, will be borne by A and B equally. For the year ended 31<sup>st</sup> March 2025, the firm incurred a loss of ₹1,25,000. How much deficiency will be borne by A and B.
4. Jai and Veeru were in a partnership sharing profits and losses in the ratio 5:3. Capitals were ₹10,00,000 and ₹8,00,000 respectively. The firm also had reserves of ₹7,00,000. Normal rate of return was 10%. Firm made average profits of ₹2,30,000 for the year ended 31<sup>st</sup> March 2025 (after adjustment of loss of machinery of book value ₹2,00,000 by fire against which insurance claim of ₹1,50,000 was admitted). Determine value of goodwill as per capitalization of super profits method.
5. On 1<sup>st</sup> August 2024, Tom, Jerry, and Tyke entered partnership with capitals of ₹5,00,000 each. Interest on drawings was to be charged @6% p.a. For the year ended 31<sup>st</sup> March 2025, Tyke withdrew ₹80,000. Determine interest on drawings to be charged from Tyke.
6. Raghav and Sahil were partners sharing profits and losses in the ratio 5:3. Capitals: ₹7,20,000 and ₹2,80,000.

General Reserve balance ₹5,00,000, Deferred Revenue Expenditure ₹4,00,000. Ojasv admitted for 20% share, brings ₹4,00,000 capital. Determine goodwill share of Ojasv.

7. Yashasvi, Nitish, and Harshit shared profits and losses in ratio 5:3:2. From 01 April 2025, ratio changed to 4:3:2. Goodwill in books ₹4,00,000, valued at ₹7,20,000. Determine gain or sacrifice for each partner and pass journal entries.
8. Ritu Ltd. issued ₹40,00,000 8% Debentures of ₹100 each at 5% discount, redeemable at 10% premium at end of 5 years. Securities Premium balance ₹2,70,000. Pass journal entries.
9. Ankur and Vikram shared profits and losses 3:2, decided to share equally. Investment Fluctuation Reserve ₹4,00,000. Pass necessary journal entries.
10. Amit, Sumit, and Pulkit shared profits 5:3:2. Capitals: ₹8,00,000; ₹7,00,000; ₹5,00,000. Partnership deed: Interest, salary, commission, minimum guarantee to Sumit. Profits ₹6,00,000 divided equally. Pass adjustment entry with workings.
11. Inventory Turnover Ratio: 5 times. Revenue from operations ₹5,00,000, Gross Profit 25% of Cost. Closing Inventory ₹60,000. Determine Opening Inventory.
12. Cost of Revenue: ₹6,00,000, Gross Profit 25%, Cash Sales 20%, Opening Debtors ₹1,00,000, Closing Debtors ₹2,00,000, Provision: Opening ₹10,000, Closing ₹20,000. Calculate Trade Receivables Turnover Ratio.
13. Profit after reserve ₹75,000, reserve ₹15,000, tangible assets ₹10,00,000, outside liabilities ₹3,00,000. Goodwill ₹50,000. Determine Normal Rate of Return.
14. Buddha Ltd. took over assets ₹40,00,000 and liabilities ₹6,50,000 of Ginny Ltd. Issued 30,000 8% Debentures ₹100 each at 10% discount, redeemable at 5% premium, plus cheque ₹5,00,000. Pass journal entries.
15. Doraemon, Shinchan and Nobita are partners sharing profits and losses in the ratio of 3:2:1. With effect from 1st April 2022 they agree to share profits equally. For this purpose, goodwill is to be valued at two year's purchase of the average profit of last four years which were as follows:  
 Year ending on 31st March, 2019 ₹ 50,000 (Profit)  
 Year ending on 31st March, 2020 ₹ 1,20,000 (Profit)  
 Year ending on 31st March, 2021 ₹ 1,80,000 (Profit)  
 Year ending on 31st March, 2022 ₹ 70,000 (Loss)  
 On 1<sup>st</sup> April 2021 a Motor Bike costing ₹ 50,000 was purchased and debited to travelling expenses account, on which depreciation is to be charged @ 20% p.a by Straight Line Method. The firm also paid an annual insurance premium of ₹ 20,000 which had already been charged to Profit and Loss Account for all the years.  
 Journalise the transaction along with the working notes.
16. Company forfeited shares Face Value ₹10 for non-payment of final call ₹4. Reissued at discount ₹5; ₹4,500 transferred to Capital Reserve. Pass journal entries and prepare Share Forfeited Account.
17. Pass necessary Journal entries:
  - i. Arman Ltd. 750 12% Debentures ₹100 each, 10% discount, redeemable at 5% premium
  - ii. Sohan Ltd. 800 9% Debentures ₹100 each, 20% premium, redeemable at ₹10 premium
18. Revenue ₹10,00,000, Purchases ₹3,60,000, Carriage ₹50,000, Employee Benefit Expenses ₹1,00,000 (Wages ₹60,000), Opening Inventory ₹60,000, Average Inventory ₹80,000. Calculate Gross Profit Ratio.
19. Profit after tax ₹6,00,000, Tax 20%, EBIT ₹10,00,000, Nominal Value of Debentures ₹25,00,000. Determine interest rate on debentures.
20. Assets ₹20,00,000 from PK Ltd., 30% paid by bank draft, balance by shares ₹100 each at 10% premium. Pass journal entry.
21. A and B are partners. B draws fixed amount quarterly. Interest on drawings 15% p.a., interest ₹9,000. Calculate drawings.
22. P, Q, R capitals ₹40,000; ₹32,000; ₹24,000. Profit ₹48,000 distributed 3:1:1. Errors: 1. Interest on capital 10% instead of 8% 2. Salary ₹12,000 credited to P instead of Q Pass single journal entry.
23. Lilly Ltd. forfeited 100 shares ₹10 each, issued at 10% premium, ₹8 called up. Shareholder unpaid ₹3 allotment, ₹2 first call. Reissued 60 shares to Ram ₹8, 20 shares to Suraj ₹12. Prepare Share Forfeiture Account.
24. (a) Liquid ratio 1.5, current ratio 2, inventory turnover 6, current assets ₹8,00,000. Determine annual sales (25% profit on cost).  
 (b) Debt to Capital Employed: Shareholder Funds ₹15,00,000, 8% Debenture ₹7,50,000, Current Liabilities ₹2,50,000, Non-Current Assets ₹17,50,000, Current Assets ₹7,50,000. Calculate ratio.

25. Calculate amount of Opening Trade Receivables and Closing Trade Receivables from the following figures:

Trade Receivable Turnover ratio 5 times

Cost of Revenue from Operations ₹ 8,00,000

Gross Profit ratio 20%

Closing Trade Receivables were ₹ 40,000 more than in the beginning

Cash sales being  $\frac{1}{4}$  times of Credit sales

## BUSINESS STUDIES

1. Mita has a successful ice cream business at Bikaner, namely 'Smart flavours'. Her ice creams are utterly delicious. She makes ice creams from fresh milk and the same are available in a wide range of flavours and packs. She sets viable business objectives and works with the same in mind in order to ensure that the customers will come back for purchasing.

Having the first mover advantage, her business was doing well. To earn higher profits, she started cutting costs. This would sometimes lead to delay in delivery and the ice cream was not reaching the market in time. Over a period of time, the demand for her ice cream declined and because of it the competitors entered the market. She lost some of her market share to competitors.

At the beginning of summer season, she got back-to-back orders for supply of 4,000 ice cream packs of different flavours for special occasions. To ensure that the task was completed and orders delivered in time she hired additional workers. She was, thus able to produce and deliver the ice cream packs but at a high production cost. While completing activities and finishing the given task for achieving goals, Mita realised that she was ignoring one of the important aspects of management.

Identify the aspects of management that has been ignored by Mita. Also explain the same with the help of an example.

2. **Read the given extract and choose the correct option to answer the following:**

Arman works as the cost and risk management head of a company in power sector. As a result of his excellent managerial competence, the company is able to reduce costs and increase productivity. The company belongs to infrastructure sector, wherein regular amendments are made in the government regulations and policies. He holds regular meetings to ensure that people in his department are not only aware of the related changes but are also able to adapt to these changes effectively. This helps the company to maintain its competitive edge. He motivates and leads his team in such a manner that individual members are able to achieve their personal goals while contributing to the overall organisational objective. In the process of fulfilling his duties for the growth of the organisation, he helps in providing competitive services, adopting new technology, creating more employment opportunities etc. for the greater good of the people at large.

I. 'As a result of his excellent managerial competence, the company is able to reduce costs and increase productivity.' Which of the following significance of management? Is reflected here?

(a) Achieving group goals (b) Creates dynamic organization  
(c) Achieving personal objectives (d) Increases efficiency

II. 'He holds regular meetings to ensure that people in his department are not only aware of the related changes but are also able to adapt to these changes effectively.' He does this in a conscious and deliberate manner. He is engaged in:

(a) Directing (b) Controlling (c) Coordination (d) Organising

III. 'He motivates and leads his team in such a manner that individual members are able to achieve their personal goals while contributing to the overall organisational objective.' Which of the following objective is not talked about in these lines?

(a) Organisational objective (b) Personnel objective  
(c) Social objective (d) None of these

IV. 'In the process of fulfilling his duties for the growth of the organisation, he helps in providing competitive services, adopting new technology, creating more employment opportunities etc. for the greater good of the people at large.' Which of the following significance of management is reflected here?

(a) Development of Society (b) Achieving personal objectives  
(c) Increases efficiency (d) Creates dynamic organization

3. "Management is a profession like medical or legal profession." Do you agree with this statement? Give any four reasons in support of your answer.



to allow employers of certain industries to make payment through various electronics modes of payments. The amendment will be applicable to all the public sector undertakings for wages disbursement using e-payment options. This is another milestone in the direction to further push to cashless economy.

Identify and explain any two dimensions of business environment which relate to the above-mentioned case.

10. 'Konark Ltd.' is an electronic goods manufacturing enterprise situated in Shivpuri, Madhya Pradesh. It is earning a very low revenue in comparison to a competing electronic goods manufacturing enterprise, 'Nova Ltd.' situated in Mumbai. Both Konark's and Nova's operations are affected directly by the investors, customers, competitors and suppliers, which are unique to their respective locations. In addition to this, individual firms of this field are affected indirectly by the factors like the money supply in the economy, composition of the families, the technological changes, etc.

(a) Identify and state the feature of the concept discussed in the above paragraph.  
(b) Also, state any four points of importance of this concept.

11. Amber Cosmetics Ltd. is in the business of beauty care products. They want to diversify in women garment and accessories too. Before diversification, they carried out a market survey to find out more about the competition, customer tastes and preferences. They decide to add new features to their products in order to meet the changing customer requirements, not to test their products on animals, keep their cosmetics chemicals free and keep their customers well informed. Hence, Amber Cosmetics Ltd. was able to increase profits with customer satisfaction.

(a) Identify a feature of business environment being emphasized by quoting lines from the above.  
(b) Identify the impact of government policy changes on business being referred by quoting lines from the above.  
(c) State any one value which the company wanted to communicate to the society.

12. What are the benefits and challenges before India for becoming a cashless economy?

13. Explain the link between operating cycle and working capital.

14. You are the Financial Manager of a newly established company. The Directors have asked you to determine the amount of working capital requirement for the company. Explain any four factors that you will consider while determining the working capital requirement for the company.

15. Tata International Ltd. earned a net profit of ₹ 50 crores. Ankit the finance manager of Tata International Ltd. wants to decide how to appropriate these profits. Identify the decision that Ankit will have to take and also discuss any five factors which help him in taking this decision.

16. Saqib Ltd. is a large credit worthy company operating in the Kashmir Valley. It is an export-oriented unit, dealing in exclusive embroidered shawls. The floods in the Valley have created many problems for the company. Many craftsmen and workers have been dislocated and raw material has been destroyed. The firm is therefore, unable to get an uninterrupted supply of raw material, and the duration of the production cycle has also increased. To add to the problems of the organisation, the suppliers of raw material who were earlier selling on credit are asking the company, for advance payment or cash payment on delivery. The company is facing a liquidity crisis. The CEO of the company feels that taking a bank loan is the only option with the company to meet its short-term shortage of cash.

As a finance manager of the company, name and explain the alternative to bank borrowing that the company can use to resolve the crisis.

17. Differentiate between 'capital-market' and 'money-market' on the basis of:

(i) Safety      (ii) Expected return      (iii) Meaning      (iv) Instruments and      (v) Duration

18. Charu is a chartered accountant in Prakash Ltd. During the course of meeting with directors, she came to know that as against the previous years, this year company is going to declare handsome dividend. Often it is observed that when such news becomes public, then the share market jumps up. Considering it, Charu purchased large number of company's shares before this news reached the public.

(a) Identify the type of malpractice used by Charu.  
(b) Name the authority which regulates such behaviour. Write any three other functions of this authority

19. Radhika was a student of Business Studies of Class XII. Her father was a farmer who grew different varieties of rice and was well-versed about various aspects of rice cultivation. He was also selected by the government for a pilot-project on rice cultivation. As a project-work in Business Studies she decided to study the feasibility of marketing good quality rice at a reasonable price. Her father suggested her to use internet to gather customers' views and opinions. She found that there was a huge demand for packaged organic rice. She knew that there were no pre-determined specifications in case of rice because of which it would be difficult to achieve uniformity in the output.

To differentiate the product from its competitors, she gave it the name of 'Malabari Organic Rice' and classified it into three different varieties namely — Popular, Classic and Supreme, based on the quality. She felt that these names would help her in product differentiation.

Explain the three functions of marketing, with reference to the above paragraph.

**20. Explain different channel levels between producer and consumer.**

**21. Refer to the extract given below and choose the correct option to answer the following:**

Pankaj purchased a car from Abhishek Motors for ₹ 50 lakhs. The company offered many attractive gifts to Pankaj like free insurance for first two years, free pick up and drop facilities for free servicing upto 20,000 km, etc. But after a few days Pankaj noticed that the pick-up of the car was not good and there was some problems in the engine. The company serviced the car free of cost but even then, Pankaj was not satisfied with its performance. Abhishek Motors is not giving him the due response. So, he filed a complaint in the District Commission but was not satisfied with its decision also. He was very much disturbed and after two months decided to appeal against it.

I. Which right of Pankaj is violated by Abhishek Motors?

(a) Right to seek Redressal      (b) Right to be Heard      (c) Right to Safety      (d) Right to Choose

II. 'So he filed a complaint in the District Commission...' A complaint when the value of goods and services along with the compensation claimed does not exceed \_\_\_\_\_ is filed in the District Commission.

(a) ₹ 1 crore      (b) ₹ 1.5 crore      (c) ₹ 20 Lakhs      (d) ₹ 50 Lakhs

III. 'So he filed a complaint in the District Commission but was not satisfied with its decision also.' To which authority can Pankaj file an appeal against this decision?

(a) National Commission      (b) State Commission      (c) Supreme Court      (d) None of these

IV. 'He was very much disturbed and after two months decided to appeal against it.' Can Pankaj appeal against State Commission after two months? Where can he appeal?

(a) Yes, in the Supreme Court      (b) Yes, in the District Forum  
(c) Yes, in the National Commission      (d) No, appeal cannot be filed

**22.** Manuj bought a packet of chips from a local shopkeeper and found that the ingredients given on the label were not legible. He complained about it to the company. The company sent a written apology stating that they will make sure that existing packets are withdrawn from the market and new packets with legible labels are soon made available. State the consumer right which Manuj exercised.

**23.** Non-Government organisations perform several functions for the protection and promotion of interests of consumers. State any six functions performed by them.

**24.** "Binge", a confectionary business was operating successfully in Noida. It wanted to expand in Gurgaon and achieve a major market share there also. It devoted a lot of time and spent huge amounts of money in order to achieve this. However, there was more competition in Gurgaon and also his plans which had worked very well in Noida, did not bring results in Gurgaon. He could not change his plans due to huge amounts already spent on them. It caused tremendous losses to the business.

State any three limitations of Planning highlighted in the above example. Also, quote the lines from it.

**25.** 'Unforeseen events and changes, rise in costs and prices, environmental changes, governmental interventions, legal regulations, all affect business plan'. In the light of the statement state any three limitations of planning function of management.

## **ECONOMICS**

1) Define tax and non-tax revenue. Give an example of each.

2) Giving reasons, classify the following into revenue receipts and capital receipts:

(i) Recovery of loans      (ii) Profits of public sector undertakings      (iii) Borrowings

3) Explain the major components of Government budget.

4) What are the implications of fiscal deficit?

5) Giving reasons, categorise the following into revenue receipts and capital receipts:

(i) Recovery of loans,      (ii) Corporate tax,  
(iii) Dividend on investment made by government      (iv) Sale of shares of public sector undertakings  
(v) Tax deposit      (vi) Disinvestment.

6) Explain how the government can use the budgetary policy to reduce inequalities in income.

7) Elaborate the objective of "Economic Growth" in the government Budget.

8) Distinguish between Revenue Receipts and Capital Receipts.

9) Suggest any 3 remedies for Revenue Deficit in government budget.  
 10) "A cut in subsidies puts the government in a dilemma". Comment.

## INFORMATICS PRACTICES

### Instructions:

1) To be Done in IP NoteBook

### Python

- 2) Write a python program to create a dataframe of your choice inspired by your Diwali celebration by taking at least 4 columns and 5 rows and write commands to do the following tasks.
- 3) Add a new record of your choice during runtime.
- 4) Modify the column names to any other names.
- 5) Modify any particular column values to some other values.
- 6) Delete a specific column.
- 7) Delete a specific row
- 8) display first 3 rows
- 9) display last 2 rows.

### Mysql

- 1) Write query to create a database named as vacation.
- 2) Create 2 tables inspired by your vacation trips & observing data around you.
- 3) Specify the reason of selection primary key and foreign key.
- 4) Write a query to add a new column after the table is being created.
- 5) Write a query to modify any specific column name.
- 6) Write a query to delete any record from any table.
- 7) Write a query to show the use of equi join
- 8) Write a query to drop any particular column.
- 9) Write a query to drop both the tables as well as database.

## PHYSICAL EDUCATION

1. How can a balanced diet help different family members maintain an ideal body weight?
2. Suggest five healthy dietary habits that a family can adopt to prevent obesity and lifestyle diseases.
3. Explain how regular practice of yoga asanas and pranayama helps in reducing stress and improving mental health.
4. Detail any 4 yoga asanas or pranayama techniques beneficial for gastric problem and period pains.
5. Why is maintaining personal hygiene important for overall health and social well-being?
6. List any five good personal hygiene practices that should be followed in daily life.

## APPLIED MATH

- 1) Solve the differential equation  $x(1+y^2)dx - y(I+x^2)dy = 0$ , given that  $y = 0$ , when  $x = 1$ .
- 2) Solve the differential equation  $\sqrt{a+x}dy + xdx = 0$ .
- 3) Form the differential equation corresponding to  $y^2 = a(b-x^2)$  by eliminating a and b.
- 4) Form the differential equation of the family of circles in the second quadrant and touching the coordinate axes.
- 5) Find the differential equation representing the family of curves  $y = ae^{bx} + 5$ , where a and b are arbitrary constants.
- 6) How many times must a man toss a fair coin, so that the probability of having at least one head is more than 80%?
- 7) A and B throw a die alternatively till one of them gets a '6' and wins the game. Find their respective probabilities of winning, if A starts first.
- 8) In a game, a man wins ₹ 5 getting a number greater than 4 and loses ₹ 1 otherwise, when a fair die is tossed. The man decided to throw a die thrice but to quit as and when he gets a number greater than 4. Find the expected value of the amount he withdrawn.
- 9) Two cards are drawn successively with replacement from a well shuffled pack of 52 cards. Find the probability distribution of the number of aces. Hence find the mean of the distribution.
- 10) A discrete random variable X has the following probability distribution:

X	1	2	3	4	5	6	7
P(X)	k	2k	2k	3k	K2	2k2	7k2+k

Find the value of k and find the mean.

11) In a group activity class, there are 10 students whose ages are 16, 17, 15, 14, 19, 17, 16, 19, 16 and 15 years. One student is selected at random such that each has equal chance of being chosen and age of the student is recorded. On the basis of the above information, answer the following questions: i) Find the probability that the age of the selected student is a composite number. ii) Let  $X$  be the age of the selected student. What can be the value of  $X$ ? iii) Find the probability distribution of random variable  $X$  and hence find the mean age. iv) A student was selected at random and his age was found to be greater than 15 years. Find the probability that his age is a prime number.

12) Three numbers are selected at random (without replacement) from first six natural numbers. Let  $X$  denote the largest of the three numbers obtained. Find the probability distribution of  $X$ . Also find the mean.

13) In a game, a man wins 15 for getting a number greater than 4 and loses 1 otherwise, when a fair die is thrown. The man decided to throw a die thrice but to quit as and when he gets a number greater than 4. Find the expected value of the amount he wins/lose.

14) In a hurdles race, a player has to cross 10 hurdles. The probability that he will clear each hurdle is  $\frac{5}{6}$ . What is the probability that he will knock down fewer than 2 hurdles?

15) An unbiased die is thrown again and again until three sixes are obtained. Find the probability of obtaining 3rd six in the sixth throw of the die.

16) The probability of a man hitting a target is  $1/4$ . How many times must he fire so that the probability of his hitting the target at least once is greater than  $2/3$ ?

17) The items produced by a company contain 10% defective items. Show that the probability of getting 2 defective items in a sample of 8 items is  $\frac{28 \times 9^6}{10^8}$ .

18) Show that  $y = cx + \frac{a}{c}$  is a solution of the differential equation  $y = x \frac{dy}{dx} + \frac{a}{\frac{dy}{dx}}$ .

19) Show that  $xy = ae^x + be^{-x} + x^2$  is a solution of the differential equation  $x \frac{d^2y}{dx^2} + 2 \frac{dy}{dx} - xy + x^2 - 2 = 0$ .

20) Show that  $Ax^2 + By^2 = 1$  is a solution of the differential equation  $x \left\{ y \frac{d^2y}{dx^2} + \left( \frac{dy}{dx} \right)^2 \right\} = y \frac{dy}{dx}$

## MARKETING

### Part A

**Q1.** Explain the concept of product as an element of the marketing mix. Discuss the levels of product with suitable examples.

**Q2.** Differentiate between branding, packaging, and labelling. How do these elements contribute to the marketing success of a product?

**Q3.** Define price and explain any four factors that influence the price determination of a product. Support your answer with relevant examples.

**Q4.** What is meant by physical distribution? Describe the components of physical distribution in detail.

### Part B: Case-Based / Application Questions

**Q5.** A company named “Glow Care” has launched an organic face cream. The product claims to be chemical-free and eco-friendly. However, customers find the packaging unattractive and labelling unclear.

#### Answer the following:

- Identify and explain the product-related elements of the marketing mix that need improvement.
- Suggest two ways the company can make its product more appealing to its target market.

**Q6.** (Price Case Study)

A new electric two-wheeler company, E-Zip Motors, has entered the market where established brands like Ola Electric and Ather are already competing. The company wants to attract customers quickly.

#### Questions:

- Which pricing strategy should E-Zip adopt — penetration pricing or skimming pricing? Give reasons.
- Mention two factors that should be considered before finalizing the price.

**Q7.** (Place/Distribution Case Study)

A company manufacturing packaged drinking water bottles wants to expand its market to rural areas. However, the rural markets have poor transport connectivity and limited retail outlets.

#### Questions:

- Suggest a suitable channel of distribution for the company.

b) Explain any two physical distribution decisions that the company must take to ensure availability in rural areas.

**Q8. (Integrated Case Study: Product–Price–Place)**

**Read the following situation and answer the questions:**

A brand called “Eco Brush” produces biodegradable toothbrushes. Initially, it sold through online platforms only at ₹120 per brush. Due to increasing competition, the company plans to reduce the price and distribute through supermarkets in metro cities.

**Questions:**

a) Identify and explain the marketing mix elements involved in the company’s decision.

b) Suggest one improvement each in product, price, and place strategy.

**Q9. (Analytical Question)**

Compare the role of wholesalers and retailers in the distribution of consumer goods. In your opinion, which is more important in modern marketing and why?

**Q10. (Evaluation Question)**

“Choosing the right price and distribution channel is more important than product features.”

**Q11. Do you agree with this statement? Give your arguments with examples.**

**NOTE:**

- ❖ Students need to complete the subject specific assignments as per the instructed norms.
- ❖ **Submission date for all assignments is 12<sup>th</sup> November, 2025, Wednesday.**
- ❖ These assignments are a part of the Internal Assessments and will be marked for the same. It is mandatory for the students to complete the assignments and submit it to the concerned teachers.
- ❖ Students are requested to clarify any doubts about the assignments during regular classes.

*May the auspicious glow of Diwali Illuminate your Life with joy, prosperity, good health and hosting success.*

