

BAL BHARATI PUBLIC SCHOOL, DWARKA

HOLIDAY HOMEWORK (2023-24)

CLASS XII

INDEX

- Psychology
- Economics
- English
- Business Studies
- Accountancy
- Mathematics

PSYCHOLOGY

Q1. Develop a case profile of an individual exhibiting any of the following:

- a.) Is a prodigy and is exhibiting superior/ability in any of the domain (sports, music, academics etc.)
- b.) Requires career counselling
- c.) Has a dysfunctional family.
- d.) Has any of the following difficulties- learning disability, ADHD, speech delays, physical ailment which is impairing everyday functioning.

Q2. Give critical reviews of any movie/book that is depicting a psychological disorder. (15 Park Avenue, Black Swan, Sybil, Joker etc.)

Q3. Prepare a research paper on the topic “Intelligence is an interplay of nature and nurture”.
(500-600 words)

ECONOMICS

Student should choose any one topic as suggested by CBSE and submit the first draft (handwritten or typed) :

- Introduction (Two pages)
- Meaning and definition with suitable examples (One page)
- Research articles on the topic (8 – 10 articles with facts, figures, graphs, pictures and cartoons relevant to the topic)
- Source of information

CBSE Guidelines for Project Work in Economics

- Students are supposed to pick any ONE of the two suggested projects.

I. Project (Option One) : What’s Going Around Us

The purpose of this project is to study the scope and repercussions of various Economic events and happenings taking place around the country and the world. (eg. The Dynamics of the Goods & Services Tax and likely impacts on the Indian Economy or the Economics behind the Demonetisation of 500 and 1000 Rupee Notes and the Short Run and Long Run impact on the Indian Economy or The impact of BREXIT from the European Union etc.)

Scope of the project: Student may work upon the following lines:

- Introduction
- Details of the topic
- Pros and Cons of the economic event/happening
- Major criticism related to the topic (if any)
- Students’ own views / perception / opinion and learning from the work
- Any other valid idea as per the perceived notion of the student who is actually working and presenting the Project-Work.

Marking Scheme: Marks are suggested to be given as –

S. No Heading Marks Allotted

1. Relevance of the topic 3

2. Knowledge Content/Research Work 6

3. Presentation Technique 3

4. Viva 8

Total 20 Marks

Suggested List

1. Disinvestment policy

2. Demonetisation

3. Goods and Services Tax Act

4. Inflation

5. Any other topic

II. Project (Option Two): Analyse any concept from the syllabus

The purpose of this project is to –

- Understand the concepts of Economic theory and application of the concept to the real life situations.

Scope of the project:

Following essentials are required to be fulfilled in the project.

Explanation of the concept:

- Meaning and Definition
- Application of the concept
- Diagrammatic Explanation (if any)
- Numerical Explanation related to the concept etc. (if any)
- Students' own views/perception/ opinion and learning from the topic.

ENGLISH

PROJECT WORK

1. ASL PROJECT: Students shall be required to prepare a project (a survey/podcast/review/role play) and write a report, in accordance with the guidelines provided by CBSE.

ASSIGNMENT

2. Create a portfolio of your writings based on the guidelines given below:
 - a. **Invitation Writing**– You are the President of the Residents Welfare Association of Rose Valley Apartments. Your society has organised a vaccination program for the residents as well as workers of the society, along with their families. Draft a formal invitation providing all the necessary details.
 - b. **Letter to the Editor** - You are Amrit/Amritha of Bangalore. You are disturbed at the non-availability of essential commodities in the Fair Price Shops of your area. Write a letter to the Editor of The Hindu drawing the attention of the authorities to the irregularities in the Fair Price Shops and the steps that can be undertaken to check them.
 - c. **Article** – Digital payment is bound to replace banking system in the coming decade. Write an article on the given topic in 150-200 words.
3. Watch any one of the following movies and pen down a review concentrating on the plot, historical/political background, characterization, and theme in not more than 200 words.
 - a. Midnight in Paris (2011)
 - b. The Shawshank Redemption (1994)
 - c. In This Corner of the World (2016)
 - d. Gandhi (1982)
 - e. The Theory of Everything (2014)
 - f. Independence Day (1996)
 - g. Mission Impossible III (2006)

BUISNESS STUDIES

General Instructions:

- i) The holiday homework of Business studies contains Case Studies, short answer, long answer & HOTS questions..
- iii) Choose any one project. The project should be presented in a neat folder.

ASSIGNMENT

CHAPTER: MARKETING MANAGEMENT

Question 1.

Sunita took her niece, Aishwarya for shopping to 'Benetton' to buy her a dress on the occasion of her birthday. She was delighted when on payment for the dress she got a discount voucher to get 20% off for a meal of Rs. 500 or above at a famous eating joint.

Identify the technique of sales promotion used by the company in the above situation.

Question 2.

Ginika, Tanish and Rohit were friends from college days and now they are doing different kinds of business. They regularly meet and discuss their business ideas and exchange notes on customer satisfaction, marketing efforts, product designing, selling techniques, social concerns etc.

In one of such meetings, Ginika drew the attention of Tanish and Rohit towards the exploitation of consumers. She told that most of the sellers were exploiting the consumers in various ways' and were not paying attention towards the social, ethical and ecological aspects of marketing, whereas she was not doing so.

Tanish told that they were under pressure to satisfy the consumers, but stated that the consumers would not buy or not buy enough unless they were adequately convinced and motivated for the same.

Rohit stressed that a company cannot achieve its objectives without understanding the needs of the customers. It was the duty of the businessmen to keep consumer satisfaction in mind because business is run by the resources made available to them by the society. He further stated that he himself was taking into consideration the needs of the customers.

Identify the various types of thinking that guided Ginika, Tanish and Rohit in the marketing efforts of their business. Also, state one more feature of the various types of thinking identified that is not given in the above para.

Question 3.

Mansi took her niece Ridhima for shopping to 'Mega Stores' to buy her a bag for her birthday. She was delighted when on payment of the bag she got a pencil box along with the bag free of cost. Identify the technique of sales promotion used by the company.

Question 4.

"Time Line" watch manufacturing company is a renowned company marketing watches. It performs various activities like, market analysis, product designing or merchandising, packaging, warehousing, branding, pricing, promotion and selling. The company maintains

good customer relations through various follow up activities. This helps the company in procuring repeat sales orders.

1. Name the concept related to the activities mentioned in the above paragraph.
2. Explain any two features of the concept identified in part (1)

Question 5.

“Coconut Joy Ltd.” are the manufacturer of vegetarian frozen dessert food products made with coconut milk, agave syrup and other certified ingredients. The founders of the company Lovely and Lalita originally developed this treat to meet their own needs but found that their friends and families around were also keen to use the products. It was not only the vegetarians, but also those who could not get enough environment friendly sustainable food, that appreciated the product. It did not take long for Lovely and Lalita to recognise the potential of their little venture. In the beginning they started from their home with the product being sold through local family parties that enable guests to personally meet the owner. This helped to establish strong connections with the prospective buyers and the company could put the product on shelves of natural food store. The company used* all marketing activities to grow and expand. The company began sponsoring booths at festivals, drawing attention to its newly created vegetarian products. It also disseminated relevant information to media about its products and the people who helped in building the company’s reputation. Lovely and Lalita were invited for an interview with one of the leading TV channels in which they talked about their environment friendly vegetarian products. To show its gratitude to customers, local business and government officials who supported the company from the beginning, “Coconut Joy Ltd.” hosted a gala event and involved all of them to raise funds for a few local NGO’s. The company also asked its fans and customers to send songs and poetry conveying their impression about “Coconut ‘Joy’s Ltd.” products.

1. Identify and explain the communication tool used by “Coconut Joy Ltd”.
2. Briefly explain the role of the tool identified in (1) above.

Question 6.

Good Living Ltd. manufactures mosquito repellent tablets tables. These tablets are packed in strips of 12 tablets each. Each of these strips is packed in a cardboard box, 48 such boxes are then placed in a big corrugated box and delivered to various retailers for sale. State the purpose of packaging the tablets in a corrugated box.

Question 7.

Shreemaya Hotel in Indore was facing a problem of low demand for its rooms due to off-season. The Managing Director (MD) of the hotel, Mrs. Sakina was very worried. She called upon the marketing Manager, Mr. Kapoor for his advice. He suggested that the hotel should announce an offer of ‘3 Days and 2 nights hotel stay package’ with free breakfast and one-day religious visit to Omkareshwar and Mahakaleshwar Temples. The MD liked the suggestion very much. Identify the promotional tool which can be used by the hotel through which large number of prospective pilgrimage tourists all over the country and abroad can be reached, informed and persuaded to use the incentive.

Question 8.

“Every time I travelled, people asked me to bring them chips, khakra and pickles from all over the country,” says Anoushka. Finally, she and her colleague, Sumeet, decided to make a business out of it. They launched a Facebook page, asked people what they wanted, and they came up with a list of about 100 places and tied-up with two dozen vendors to begin with. They were servicing people from Jaipur who wanted spices from Kerala, people from Panipat who wanted halwa from Jammu and people from Delhi who ordered fresh tea leaves from Darjeeling. Through their business, they wished to bridge the gap between sellers and buyers. The business is now worth millions.

Explain any two important activities that Anoushka and Sumeet will have to be involved in for making the goods available to customers at the right place, in the right quantity and at the right time.

Question 9.

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 in the 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 the 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 predetermined specifications in case of rice because of which it was 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.

Question 10.

Crackers Ltd., a fire-cracker manufacturing company launched some new products on eve of Diwali which attracted many buyers. To meet the increased demand, the company employed children from nearby villages. Although the product was in great demand, appropriate safety warnings for use were not mentioned on the packets that led to many accidents.

1. Identify and explain the important product-related decision that was not taken into consideration by the company.
2. Also, identify any two values which were violated by the company.

Question 11.

‘Extra Calories’ is a profit making potato chips company. The company has entered a foreign country. It has found that the youth is going to be the appropriate section of society to be targeted. The marketing head of the company has a vision for the company for another 10 years to make its mark in the market. The major challenge would be to beat the existing potato chips selling companies by giving chips of better taste so that the existing young buyers could make ‘Extra Calories’ chips as their favourite brand. The company is quite clear about its objectives. It has decided to make a net profit of at least Rs. 50 crores in its first year and later on it would like to increase this profit with passing years. Definitely the vision of

the company is quite clear.

Identify the pillars of the marketing concept discussed in the above case.

Question 12.

Atul was a pen manufacturer. He used to make ball point pens in a small factory in the basement of his house. Daily he would go to the market place and distribute pens to the retailers. Some of the pens were sold by him of his own by meeting persons on road. He had not kept any name for his pens. They were just blue, black and red pens. One of his friends suggested him to keep a good name of his pens. He kept his own name and started selling pens with the name of Atul Pens. Then there were three categories of pens – Atul Red, Atul blue and Atul black. Gradually his business started to pick up even more and he made good revenue.

1. Which function of marketing is highlighted in the above case?
2. Which element of promotion mix has been highlighted in the above case?
3. What two types of names do you see in the above case?
4. Which of the above two identified names was better? Why?

CHOOSE ANY ONE PROJECT

PROJECT 1

Marketing Management

The students to do a simple market research with the objective of finding out a product/service whose marketing may be profitable like

1. Toothpaste
2. Washing detergent
3. Learning toys
4. Roasted snacks
5. Mobile phones
6. Bike/cycle
7. Microwave oven, etc.

Identify any one product/service which you may like to manufacture or provide.

Now you are required to make project on the identified product/service keeping in mind the following:

- a. Why have you selected this product/service?
- b. Find out five competitors brands that exist in the market.

- c. What permission and license would be required to make the product?
- d. Does your product have any range? Give details.
- e. What is the name of your product?
- f. Draw its label.
- g. Draw a logo of your product.
- h. Draft a tagline.
- i. What is the selling price of your competitors' product?
- j. How will your product be packed?
- k. Which channel of distribution are you going to use? Give reasons
- l. What is going to be your selling price?
- m. List any five ways for promoting your product.
- n. What is going to be your USP?
- o. Draft a social message for your label.

PROJECT 2

PRINCIPLES OF MANAGEMENT

The students are required to visit any one of the following:

- a. A departmental store
- b. An industrial unit
- c. A fast food outlet
- d. Any other organization approved by the teacher.

You are required to observe the application of the general Principles of Management advocated by Fayol.

ACCOUNTANCY

FUNDAMENTALS OF PARTNERSHIP(MCQ)

ASSIGNMENT 1

Select the Best Alternate :

Q.1. Features of a partnership firm are:

- (A) Two or more persons are carrying common business under an agreement.
- (B) They are sharing profits and losses in the fixed ratio.
- (C) Business is carried by all or any of them acting for all as an agent.
- (D) All of the above

Q.2. Following are essential elements of a partnership firm except:

- (A) Atleast two persons
- (B) There is an agreement between all partners.
- (C) Equal share of profits and losses
- (D) Partnership agreement is for some business

Q.3. In case of partnership the act of any partner is:

- (A) Binding on all partners
- (B) Binding on that partner only
- (C) Binding on all partners except that particular partner
- (D) None of the above

Q.4. Which of the following statement is true?

- (A) a minor cannot be admitted as a partner
- (B) a minor can be admitted as a partner, only into the benefits of the partnership
- (C) a minor can be admitted as a partner but his rights and liabilities are same of adult partner
- (D) none of the above

Q.5. Ostensible partner are those who

- (A) do not contribute any capital but get some share of profit for lending their name to the business.
- (B) contribute very less capital but get equal profit
- (C) do not contribute any capital and without having any interest in the business, lend their name to the business.
- (D) contribute maximum capital of the business

Q.6. Sleeping partners are those who

(A) take active part in the conduct of the business but provide no capital.

However , salary is paid to them.

(B) do not take any part in the conduct of the business but provide capital and share profits and losses in the agreed ratio.

(C) take active part in the conduct of the business but provide no capital.

However , share profits and losses in the agreed ratio.

(D) do not take any part in the conduct of the business and contribute no capital .however , share profit and losses in the agreed ratio.

Q.7. The relation of partner with the firm is that of:

(A) An Owner

(B) An Agent

(C) An Owner and an Agent

(D) Manager

Q.8. What should be the minimum number of persons to form a Partnership:

(A) 2

(B) 7

(C) 10

(D) 20

Q.9. Number of partners in a partnership firm may be:

(A) Maximum Two

(B) Maximum Ten

(C) Maximum one Hundred

(D) Maximum Fifty

Q.10. Liability of partner is :

(A) Limited

(B) Unlimited

(C) Determined by Court

(D) Determined by Partnership Act

Q.11. Which one of the following is NOT an essential feature of a partnership?

(A) There must be an agreement

(B) There must be a business

(C) The business must be carried on for profits

(D) The business must be carried on by all the partners

Q.12. X, Y and Z are partners sharing profits and losses equally. Their capital balances on March, 31, 2012 are Rs.80,000, Rs.60,000 and Rs.40,000 respectively.

Their personal assets are worth as follows: X- Rs.20,000 Y-Rs.15,000 and Z- Rs.10,000 . The extent of their liability in the firm would be:

(A) X – Rs.80,000 : Y- Rs.60,000: and Z-Rs.40,000

(B) X-Rs.20,000 Y-Rs.15,000 and Z- Rs.10,000

(C) X- Rs.1,00,000 Y-Rs.75,000 and Z- Rs.50,000

(D) Equal

Q13. Every partner is bound to attend diligently to his ----- in the conduct of the business

- (A) Rights
- (B) Meetings
- (C) Capital
- (D) Duties

ASSIGNMENT 2 Partnership Deed

Q.14. Forming a Partnership Deed is :

- (A) Mandatory
- (B) Mandatory in Writing
- (C) Not Mandatory
- (D) None of the Above

Q.15. Partnership Deed is also called

- (A) Prospectus
- (B) Articles of Association
- (C) Principles of Partnership
- (D) Articles of Partnership

Q.16. Which of the following is not incorporated in the Partnership Act?

- (A) Profit and loss are to be shared equally
- (B) No interest is to be charged on capital
- (C) All loans are to be charged interest @6% p.a.
- (D) All drawings are to be charged interest

Q.17. When is the Partnership Act enforced?

- (A) when there is no partnership deed
- (B) where there is a partnership deed but there are differences of opinion between the partners.
- (C) when capital contribution by the partners varies
- (E) When the partner's salary and interest on capital are not incorporated in the partnership deed.

Q.18. In the absence of partnership Deed, the interest is allowed on partner's capital.

- (A) @5% p.a.
- (B) @6% p.a.
- (c) @12% p.a.
- (D) No interest is allowed

Q.19. In the absence of a partnership deed, the allowable rate of interest on partner's loan account will be:

- (A) 6% simple Interest (B) 6% p.a. Simple Interest
(C) 12% Simple Interest (D) 12% Compounded Annually

Q.20. A and B are partners in partnership firm without any agreement. A has given a loan of Rs.50,000 to the firm. At the end of year loss was incurred in the business. Following interest may be paid to A by the firm:

- (A) @5% Per Annum
(B) @6% Per Annum
(C) @6% Per Month
(E) As there is a loss in the business, interest can't be paid

Q.21. A and B are partners in a partnership firm without any agreement. A has withdrawn Rs.50,000 out of his Capital as drawings. Interest on drawings may be charged from A by the firm:

- (A) @5% per annum (B) @6% Per Annum
(C) @6% per Month (D) NO interest can be charged

Q.22. A and B are partners in a partnership firm without any agreement. A devotes more time for the firm as compare to B. A will get the following commission in addition to profit in the firm's profit:

- (A) 6% of profit (B) 4% of profit
(C) 5% of profit (D) None of the above

Q.23. In the absence of partnership deed, the following rule will apply:

- (A) No interest on capital
(B) Profit sharing in capital ratio
(C) Profit based salary to working partner
(D) 9% p.a. interest on drawings.

Q.24. In the absence of agreement, partners are not entitled to :

- (A) Salary (B) Commission
(C) Equal share in profit (D) Both (a) and (b)

Q.25. Interest on capital will be paid to the partners if provided for in the partnership deed but only out of:

- (A) Profits (B) Reserves
(C) Accumulated Profits (D) Goodwill

Q.26. which on of the following items cannot be recorded in the profit and loss appropriation account?

- (A) Interest on capital (B) Interest on drawings
(C) Rent paid to partners (D) Partner's salary

Q.27. If any loan or advance is provided by partner then, balance of such Loan Account should be transferred to:

- (A) B/S Assets side
(B) B/S Liability Side
(C) Partner's Capital A/c
(E) Partner's Current A/c

Q.28. A, B and C were Partners with capitals of Rs.50,000 ; Rs.40,000 and Rs.30,000 respectively carrying on business in partnership. The firm's reported profit for the year was Rs.80,000. As per provision of the Indian Partnersihip Act, 1932, find out the share of each partner in the above amount after taking into account that no interest has been provided on an advance by A of Rs.20,000 in addition to his capital contribution.

- (A) Rs.26,267 for Partner B and C and Rs.27,466 for partner A.
(B) Rs.26,667 each partner
(C) Rs.33,333 for A Rs.26,667 for B and Rs.20,000 for C
(D) Rs.30,000 each partner

Q.29. X, Y and Z are partners in a firm. At the time of division of profit for the year, there was dispute between the partners. Profit before interest on partner's capital was Rs.6,000 and Y determined interest @24% p.a. on his loan of Rs.80,000. There was no agreement on this point. Calculate the amount payable to X, Y and Z respectively.

- (A) Rs.2,000 to each partner
(B) Loss of Rs.4,400 for X and Z; Y will take Rs.14,800
(C) Rs.400 for X, Rs.5,200 for Y and Rs.400 for Z
(D) None of the above

Q.30. X, Y and Z are partners in a firm. At the time of division of profit for the year there was dispute between the partners. Profit before interest on partner's capital was Rs.6,00,000 and Z demanded minimum profit of Rs.5,00,000 as his financial position was not good. However, there was no written agreement on this point.

- (A) Other partners will pay Z the minimum profit and will share the loss equally.
- (B) Other partners will pay Z the minimum profit and will share the loss in capital ratio.
- (C) X and Y will take Rs.50,000 each and Z will take Rs.5,00,000.
- (D) Rs.2,00,000 to each of the partners.

Q.31. On 1st June, 2018 a partner introduced in the firm additional capital Rs.50,000. In the absence of partnership deed, on 31st March, 2019 he will receive interest.

- (A) Rs.3,000
- (B) Zero
- (C) Rs.2,500
- (D) Rs.1,800

Q.32. On 1st January 2019, a partner advanced a loan of Rs.1,00,000 to the firm. In the absence of agreement, interest on loan on 31st March, 2019 will be:

- (A) Nil
- (B) Rs.1,500
- (C) Rs.3,000
- (D) Rs.6,000

Q.33. A partner introduced additional capital of Rs.30,000 and advanced a loan of Rs.40,000 to the firm at the beginning of the year. Partner will receive year's interest:

- (A) Rs.4,200
- (B) Rs.2,400
- (C) Nil
- (D) Rs.1,800

Q.34. In the absence of partnership deed, partners share profits or losses:

- (A) In the ratio of their Capitals
- (B) In the ratio decided by the court
- (C) Equally
- (D) In the ratio of time devoted

Q.35. In the absence of Partnership Deed:

- (A) Interest will not be charged on partner's drawings
- (B) Interest will be charged @5% p.a. on partner's drawings
- (C) Interest will be charged @6% p.a. on partner's drawings
- (D) Interest will be charged @12% p.a. on partner's drawings

Q.36. In the absence of express agreement, interest @6% p.a. is provided:

- (A) On opening balance of partner's capital accounts
- (B) On closing balance of Partner's capital accounts
- (C) On loan given by partners to the firm

(D) On opening balance of partner's current accounts.

Q.37. Which of the following items are recorded in the Profit & Loss Appropriation Account of a partnership firm?

- (A) Interest on Capital
- (B) Salary to Partner
- (C) Transfer to Reserve
- (D) All of the above

Q.38. Is rent paid to a partner appropriation of profits?

- (A) It is appropriation of profit
- (B) It is not appropriation of profit
- (C) If partner's contribution as capital s maximum
- (D) IF partner is a working partner.

ASSIGNMENT 3

Calculation of Profit and Division of Profit among partners

Q.39. According to Profit and Loss Account, the net profit for the year is Rs.1,50,000. The total interest on partner's capital is Rs.18,000 and interest on partner's drawings is Rs.2,000. The net profit as per Profit and Loss Appropriation Account will be:

- (A) Rs.1,66,000
- (B) Rs.1,70,000
- (C) Rs.1,30,000
- (D) Rs.1,34,000

Q.40. According to Profit and Loss Account, the net profit for the year is Rs.4,20,000. Salary of a partner is Rs.5,000 per month and the commission of another partner is Rs.10,000. The interest on drawings of partners is Rs.4,000. The net profit as per Profit and Loss Appropriation Account will be:

- (A) Rs.3,54,000
- (B) Rs.3,46,000
- (C) Rs.4,09,000
- (D)Rs.4,01,000

Q.41. A and B are partners, According to Profit and Loss Account, the net profit for the year is Rs.2,00,000. The total interest on partner's drawings is Rs.1,000. A's salary is Rs.40,000 per year and B's salary is Rs.3,000 per month. The net profit as per Profit and Loss Appropriation Account will be:

(A) Rs.1,23,000

(B) Rs.1,25,000

(C) Rs.1,56,000

(D) Rs.1,58,000

Q.42. According to Profit and Loss Account, the net profit for the year is Rs.1,40,000. The total interest on partner's capital is Rs.8,000 and a partner is to be allowed commission of Rs.5,000. The total interest on partner's drawings is Rs.1,200. The net profit as per Profit and Loss Appropriation Account will be:

(A) Rs.1,28,200

(B) Rs.1,44,200

(C) Rs.1,25,800

(D) Rs.1,41,800

Q.43. Sangeeta and Ankita are partners in a firm. Sangeeta's capital is Rs.70,000 and Ankita's Capital is Rs.50,000. Firm's profit is Rs.60,000. Ankita share in profit will be:

(A) Rs.25,000

(B) Rs.30,000

(C) Rs.35,000

(D) Rs.20,000

Q.44. A, B and C are partners. A's capital is Rs.3,00,000 and B's Capital is Rs.1,00,000. C has not invested any amount as capital but he alone manages the whole business. C wants Rs.30,000 p.a. as salary. Firm earned a profit of Rs.1,50,000.

How much will be each partner's share of profit:

(A) A Rs.60,000 ; B Rs.60,000 ; C Rs.Nil

(B) A Rs.90,000; B Rs.30,000 ; C RS. Nil

(C) A Rs.40,000 ; B Rs.40,000 and C Rs.40,000

(D) A Rs.50,000 ; B Rs.50,000 and C Rs.50,000

Q.45. Net profit of a firm is Rs.49,500. Manager is entitled to a commission of 10% on profits before charging his commission. Manager's Commission will be:

(A) Rs.4,950

(B) Rs.4,500

(C) Rs.5,500

(D) Rs.495

Q.46. Net profit of a firm is Rs.79,800. Manager is entitled to a commission of 5% of profits after charging his commission. Manager's commission will be:

(A) Rs.4,200

(B) Rs.380

(C) Rs.3,990

(D) Rs.3,800

Q.47. Ram and Shyam are partners in the ratio of 3:2. Before profit distribution, Ram is entitled to 5% commission of the net profit (after charging such

commission). Before charging commission, firm's profit was Rs.42,000. Shyam's share in profit will be :

- (A) Rs.16,000 (B) Rs.24,000
(C) Rs.26,000 (D) Rs.16,400

Q.48. A, B and C are partners in the ratio of 5:3:2. Before B's salary of Rs.17,000 firm's profit is Rs.97,000. How much in total B will receive from the firm?

- (A) Rs.17,000 (B) Rs.24,000
(C) Rs.24,000 (D) Rs.41,000

Q.49. A, B and C are partners in a firm without any agreement. They have contributed Rs.50,000, Rs.30,000 and Rs.20,000 by way of capital in the firm. A was unable to work for six months in a year due to illness. At the end of year , firm earned a profit of Rs.15,000, A's share in the profit will be:

- (A) Rs.7,500 (B) Rs.3,750
(C) Rs.5,000 (D) Rs.2,500

Q.50. In a partnership firm, partner A is entitled a monthly salary of Rs.7,500. At the end of the year, firm earned a profit of Rs.75,000 after charging A's salary. If the manager is entitled a commission of 10% on the net profit after charging his commission, Manager's commission will be:

- (A) Rs.7,500 (B) Rs.16,500
(C) Rs.8,250 (D) Rs.15,000

Q.51. Seeta and Geeta are partners sharing profits and losses in the ratio 4:1. Meera was manager who received the salary of Rs.4,000 p.m. in addition to a commission of 5% on net profits after charging such commission. Profit for the year is Rs.6,78,000 before charging salary. Find the total remuneration of Meeta.

- (A) Rs.78,000 (B) Rs.88,000
(C) Rs.87,000 (D) Rs.76,000

Q.52. Which of the following statement is true?

- (A) Fixed capital account will always have a credit balance
(B) Current account can have a positive or a negative balance
(C) Fluctuating capital account can have a positive or a negative balance
(D) All of the above

ASSIGNMENT 4

Capital Accounts of Partners

Q.53. Which accounts are opened when the capitals are fixed?

- (A) Only Capital Accounts
- (B) Only Current Accounts
- (C) Capital Accounts as well as Current Accounts
- (D) Either Capital Accounts or Current Accounts

Q.54. Which accounts are opened when the capitals are fluctuating?

- (A) Only Capital Accounts
- (B) Only Current Accounts
- (C) Capital Accounts as well as Current Accounts
- (E) Either Capital Accounts or current Accounts

Q.55. Balance of partner's current account are:

- (A) Debit balance
- (B) Credit balances
- (C) Debit or Credit balances
- (D) Neither Debit nor credit balances

Q.56. Which item is recorded on the credit side of partner's current accounts:

- (A) Interest on Partner's Capitals
- (B) Salaries of Partners
- (C) Share of profits of Partners
- (D) All of the Above

Q.57. If the Partners' Capital Accounts are fixed 'salary payable to partner' will be recorded:

- (A) On the debit side of Partners' Current Account
- (B) On the debit side of Partners' Capital Account
- (C) On the credit side of Partners' current Account
- (D) None of the above

Q.58. If the Partner's Capital Accounts are fixed, interest on capital will be recorded:

- (A) On the credit side of Current Account
- (B) On the credit side of Capital Account

- (C) ON the debit side of Current Account
- (D) On the debit side of Capital Account

Q.59. If the Parnter's Capital Accounts are fluctuating, in that case following item/ items will be recorded in the credit side of capital accounts:

- (A) Interest on capital
- (B) Salary of partners
- (C) Commission of partners
- (D) All of the above

Q.60. Interest on parnter's capitals will be debited to:

- (A) Profit and Loss Account
- (B) Profit and Loss Appropriation Account
- (C) Partner's Capital Accounts
- (D) None of the Above

Q.61. Interest on parnter's capital will be credited to :

- (A) Profit and Loss Account
- (B) Profit and Loss Appropriation Account
- (C) Interest Account
- (D) Parnter's Capital Accounts

Q.62. For the firm interest on drawings is

- (A) Capital Payment
- (B) Expnese
- (C) Capital Receipt
- (D) Income

Q.63. Interest on Parnter's drawings will be debited to:

- (A) Profit and Loss Account
- (B) Profit and Loss Appropriation Account
- (C) Partners' Current Account
- (D) Interest Account

Q.64. When partners' capital accounts are floating , which one of the following items will be written on the credit side of the partners' capital accounts?

- (A) Interest on drawings
- (B) Loan advanced by partner to the firm
- (C) Partner's share in the firm's loss

(D) Salary to the active partners

Q.65. when partners' capital accounts are fixed, which one of the following items will be written in the partner's capital account?

- (A) Partner's Drawings
- (B) Additional capital introduced by the partner in the firm
- (C) Loan taken by partner from the firm
- (D) Loan advanced by partner to the firm

Q.66. Interest on partner's drawings will be credited to

- (A) Profit and Loss Account
- (B) Profit and Loss Appropriation Account
- (C) Partner's Capital Accounts
- (D) None of the Above

Q.67. For the firm interest on capital is:

- (A) Capital Payment
- (B) Capital Receipt
- (C) Loss
- (D) Income

LONG ANSWERS

Q1 R and S were partners in a firm sharing profits in 3 : 2 ratio. Their respective fixed capitals were Rs. 10,00,000 and Rs. 15,00,000. The partnership deed provided the following :

- (i) Interest on capital @ 10% p.a.
- (ii) Interest on drawing @ 12% p.a.

During the year ended 31-3-2013, R's drawings were Rs. 1,000 per month drawn at the end of every month and S's drawings were Rs. 2,000 per month drawn in the beginning of the every month. After the preparation of final accounts for the year ended 31-3-2013 it was discovered that interest on R's drawing was not taken into consideration.

Calculate interest on R's drawings and give necessary adjusting entry for the same.

Q2 A and B are partners with capitals of Rs. 5,00,000 and Rs. 3,00,000 respectively sharing profits in the ratio of 2 : 1. Profits during the year Rs. 3,04,080. The terms of partnership are as follows :

- (i) Interest on capitals is to be allowed @ 9% p.a.
- (ii) A is to get a salary of Rs. 4,000 per month.
- (iii) Interest on B's Loan account of Rs. 2,00,000 for the whole year.
- (iv) Interest on drawing of partners at 12% per annum. Drawing being ARs. 60,000 and B Rs. 72,000.
- (v) 5% of the distributable profit should be transferred to General Reserve.

Show the distribution of profits by preparing P & L A/c and Profit and loss appropriation A/c.

Q3. A and B are partners sharing profits in the ratio of 3:2. Interest on capital is allowed at 10% p.a and charged on drawings at the same rate. Fill up the missing figures in the following accounts:

Profit and Loss Appropriation Account

Dr. for the year ended 31st March ,2015 Cr.

Particulars	Rs	Particulars	Rs
To salary (B)	-----	By profit and loss A/c	-----
To-----		By Interest on drawings	
-----		A 2,500	
-----		B <u>1,500</u>	<u>-----</u>
To profit transferred to:-			

-	<u>1,20,000</u>		
-----	<u>-----</u>		<u>2,84,000</u>
-			

Dr. Capital Accounts Cr.

Particulars	A(Rs)	B(Rs)	Particulars	A (Rs)	B(Rs)
To -----	<u>-----</u>	<u>-----</u>	By -----	<u>-----</u>	<u>-----</u>
	=	<u>-----</u>		<u>-----</u>	<u>-----</u>
	<u>-----</u>			=	
	<u>-----</u>				

Dr. Current Accounts Cr

Particulars	A(Rs)	B(Rs)	Particulars	A (Rs)	B(Rs)
To -----	-----	-----	By balance b/d	16,000	22,000
To-----	-----	-----	By-----		-----
To-----	-----	-----	By interest on capital	80,000	60,000
			By -----	-----	-----

Q4. E,F and G are partners in a firm sharing profits in the ratio of 3:2:1. After the division of the profits for the year ended 31.3.2016 their capitals were : E Rs2,95,000 ,F Rs3,30,000 and G Rs3,35,000. During the year they withdrew Rs40,000 each. The profit of the year was Rs1,80,000. The partnership deed provided that interest on capital will be allowed @ 12% p.a. While preparing the final accounts , interest on capitals was not allowed .

Pass the necessary adjusting entry.

Q6. The following information relates to a firm of Y ,M and R .

- a) Profits for the last four years: 2012 2,50,000(profit) , 2013 2,70,000(profit) ,2014 1,80,000 (loss) ,2015 5,24,000(profit)
- b) Remuneration to each partner 1,000 p.m(to be treated as a charge on profits)
- c) Average capital employed in the business 8,00,000 d) Normal rate of return 15 %.
- e) Assets (excluding goodwill) 8,75,000 , liabilities 32,000.

You are required to calculate the value of goodwill on the basis of Capitalisation of Super Profits.

CASE STUDIES

I Read the following hypothetical text and answer the given questions:

Amit and Mahesh were partners in a fast-food corner sharing profits and losses in ratio 3:2. They sold fast food items across the counter and did home delivery too. Their initial fixed capital contribution was ₹1,20,000 and ₹80,000 respectively. At the end of first year their profit was ₹ 1,20,000 before allowing the remuneration of ₹.3,000 per quarter to Amit and ₹.2,000 per half year to Mahesh. Such a promising performance for first year was encouraging, therefore, they decided to expand the area of operations. For this purpose, they needed a delivery van, a few Scotties and an additional person to support. Six months into the accounting year they decided to admit Sundaram as a new partner and offered him 20% as a share of profits along with monthly remuneration of ₹ 2,500. Sundaram was asked to introduce ₹1,30,000 for capital and ₹.70,000 for premium for goodwill. Besides this Sundaram was required to provide Rs.1,00,000 as loan for two years. Sundaram readily accepted the offer. The terms of the offer were duly executed and he was admitted as a partner.

1. Remuneration will be transferred to _____ of Amit and Mahesh at the end of the accounting period.
 - a. Capital account.
 - b. Loan account.
 - c. Current account.
 - d. None of the above.
2. Upon the admission of Sundaram the sacrifice for providing his share of profits would be done:
 - (a) by Amit only.
 - (b) by Mahesh only.
 - (c) by Amit and Mahesh equally.
 - (d) by Amit and Mahesh in the ratio of 3:2.

3. Sundaram will be entitled to a remuneration of _____ at the end of the year.

4. While taking up the accounting procedure for this reconstitution the accountant of the firm Mr. Suraj Marwaha faced a difficulty. Solve it by answering the following: For the amount of loan that Sundaram has agreed to provide, he is entitled to interest thereon at the rate of _____.

MATHEMATICS

A) Prepare a mathematical model on any one of the following topics:

- (1) To compute a more realistic picture of the infection rate of novel corona virus that causes COVID-19, enabling better prevention and preparation for future.
- (2) Role of math in the cure of cancer
- (3) Role of math in setting up a business and maximizing the profit to the company with minimum investment.
- (4) Role of mathematics in the automobile industry.

B) Solve the following questions in a separate register

Prove each of the following:

Q1. $\cos^{-1}\left(\frac{4}{5}\right) + \tan^{-1}\left(\frac{3}{5}\right) = \tan^{-1}\left(\frac{27}{11}\right)$

Q2. $\tan^{-1}\frac{1}{5} + \tan^{-1}\frac{1}{7} + \tan^{-1}\frac{1}{3} + \tan^{-1}\frac{1}{8} = \frac{\pi}{4}$

Q3. $\sin^{-1}\left(\frac{12}{13}\right) + \cos^{-1}\left(\frac{4}{5}\right) + \tan^{-1}\left(\frac{63}{16}\right) = \pi$

Q4. $\sin^{-1}\frac{8}{17} + \sin^{-1}\frac{3}{5} = \tan^{-1}\frac{77}{36}$

Q5. $\sin^{-1}\left(\frac{5}{13}\right) + \sin^{-1}\left(\frac{7}{25}\right) = \cos^{-1}\left(\frac{253}{325}\right)$

Q 6. Solve: $\tan^{-1}\frac{1-x}{1+x} = \frac{1}{2}\tan^{-1}x$ (Ans.x = $\frac{1}{\sqrt{3}}$)

Q7. Simplify the following:

(i) $\tan^{-1}\left(\frac{\cos x}{1+\sin x}\right)$

(ii) $\sin^{-1}(x\sqrt{1-x} - \sqrt{x}\sqrt{1-x^2})$

Q8. Prove that $\cos^{-1}(3/5) + \cos^{-1}(4/5) = \pi/2$

Q9. Prove that $4(\cot^{-1}3 + \operatorname{cosec}^{-1}\sqrt{5}) = \pi$

Q10. Prove that $\sin^{-1}\frac{1}{\sqrt{5}} + \cot^{-1}3 = \frac{\pi}{4}$

Q11. Find the value of $\cos(2\cos^{-1}x + \sin^{-1}x)$ at $x = 1/5(-\sqrt{24}/5)$

Q12. Simplify the following:

(i) $\cos^{-1}(3/5\cos x + 4/5\sin x)$

(ii) $\tan^{-1} \left(\frac{a\cos x - b\sin x}{b\cos x + a\sin x} \right)$

Q13. Find the value of $\tan^{-1}(1) + \cos^{-1}(-1/2) + \sin^{-1}(-1/2)$

Q14. Evaluate : $\tan^{-1} \sqrt{3} - \sec^{-1}(-2)$.

Q15. Find the value : $\cos^{-1}(\cos 13\pi/6)$

Q16. Write the function in the simplest form: $\tan^{-1} \left(\frac{\cos x - \sin x}{\cos x + \sin x} \right)$

Q17. Prove that $\cos^{-1} 12/13 + \sin^{-1} 3/5 = \sin^{-1} 56/65$

Q18. Prove that $\cot^{-1} \left(\frac{\sqrt{1+\sin x} + \sqrt{1-\sin x}}{\sqrt{1+\sin x} - \sqrt{1-\sin x}} \right) = x/2, x \in (0, \pi/4)$

Q19. Solve for x : $\sin[\cot^{-1}(x+1)] = \cos(\tan^{-1} x)$

Q20. Evaluate $\sin^{-1}(-1/2) + \cos^{-1}(-1/2)$

Q21. Solve the following for x : $\cos^{-1} \left(\frac{x^2-1}{x^2+1} \right) + \tan^{-1} \left(\frac{2x}{x^2-1} \right) = 2\pi/3$

Q22. Find the value of $\cot^{-1} \frac{ab+1}{a-b} + \cot^{-1} \frac{bc+1}{b-c} + \cot^{-1} \frac{ac+1}{c-a}$

Q23. If $(\tan^{-1} x)^2 + (\cot^{-1} x)^2 = 5\pi^2/8$, then find x.

Q24. Solve for x: $\sin^{-1} x + \sin^{-1} 2x = \frac{\pi}{3}$.

Q25. Find the greatest and the least values of $((\sin^{-1} x)^2 + (\cos^{-1} x)^2)$

Q26. Prove each of the following:

1. $\cos^{-1} \left(\frac{4}{5} \right) + \tan^{-1} \left(\frac{3}{5} \right) = \tan^{-1} \left(\frac{27}{11} \right)$

2. $\tan^{-1} \frac{1}{5} + \tan^{-1} \frac{1}{7} + \tan^{-1} \frac{1}{3} + \tan^{-1} \frac{1}{8} = \frac{\pi}{4}$

3. $\sin^{-1} \left(\frac{12}{13} \right) + \cos^{-1} \left(\frac{4}{5} \right) + \tan^{-1} \left(\frac{63}{16} \right) = \pi$

CONTINUITY AND DIFFERENTIABILITY

Q.1 Let $f(x) = \begin{matrix} 3ax+b & \text{if } x > 1 \\ 11 & \text{if } x = 1 \\ 5ax-2b & \text{if } x < 1 \end{matrix}$

Find the value of 'a' and 'b' so that f(x) is continuous.

Q2. If the function $f(x) = \frac{x \cos x + \sin x}{x}$; $x \neq 0$
 $= k$; $x = 0$
 is continuous at $x = 0$, find 'k'.

Q3. Find the values of a and b such that the function defined by

$$F(x) = \begin{cases} 5, & \text{if } x \leq 2 \\ ax + b, & \text{if } 2 < x < 10 \\ 21, & \text{if } x \geq 10 \end{cases}$$

is a continuous function.

Q4. Show that the function f is continuous at $x = 0$ for all values of a, where

$$F(x) = \begin{cases} x^2, & \text{if } x \geq 0 \\ ax, & \text{if } x < 0 \end{cases}$$

Find the right and left hand derivatives at $x = 0$. Hence, find the value of a for which f is derivable at $x = 0$.

Q5. If $x = a \sin 2t(1 + \cos 2t)$ and $y = b \cos 2t(1 - \cos 2t)$, show that $(dy/dx)_{\pi/4} = b/a$

Q6. Find the derivative of the following functions w.r.t x :

a. $(x^x)^x$ b. $(x \log x)^{\log \log x}$ c. $x^{\sin 2x + \cos 2x}$

Q7. If $\cos^{-1}(y/b) = \log(x/n)^n$, prove that $x^2y_2 + xy_1 + n^2y = 0$

Q8. Find $\frac{dy}{dx}$ If $y = (\cos x)^{\log x} + (\log x)^x$

Q9. Differentiate $\tan^{-1} \frac{\sqrt{1+x^2} - \sqrt{1-x^2}}{\sqrt{1+x^2} + \sqrt{1-x^2}}$ with respect to $\cos^{-1}x^2$.

Q10. If $x = \tan\left(\frac{\log y}{a}\right)$, prove that $(1 + x^2) y_2 + (2x - a) y_1 = 0$

Q11. If $x = \frac{\cos \theta + \log \tan \theta}{2}$; $y = \sin \theta$, find $\frac{d^2y}{dx^2}$ at $\theta = \pi/4$

Q12. If $y = (\sin^{-1}x)^2$ prove that $(1-x^2)y_2 - xy_1 - 2 = 0$

Q13. Check the applicability of Lagrange's Mean Value theorem for the function $f(x) = x^2 - 6x + 1$ in $(1, 3)$. Hence find the coordinates of the point at which the tangent is parallel to the chord joining the points $(1, -4)$ and $(3, -8)$.

Q14. Find the point on the graph of $y = x^3$ where the tangent is parallel to the chord joining $(1, 1)$ and $(3, 27)$

Q15. Verify the applicability of Lagrange's Mean Value theorem for each of the following functions:-

- (i) $[x]$ in $[-1, 1]$
(ii) $x + 1/x$ in $[1, 3]$

Q16. It is given that for the function $f(x) = x^3 + bx^2 + ax + 5$ on $[1, 3]$ Rolle's theorem holds with $c = 2 + 1/\sqrt{3}$. Find the values of a and b .

Q17. Discuss the continuity of the function f given by

$$f(x) = \begin{cases} x & \text{if } x \leq 0 \\ x^2 & \text{if } x > 0 \end{cases}$$

Q18. For what choice of a and b , is the function

$$F(x) = \begin{cases} x^2, & \text{if } x \leq c \\ ax + b, & \text{if } c < x \end{cases} \text{ differentiable at } x = c.$$

Q19. Show that the function $f(x) = |x| + |x - 1|$, $x \in \mathbb{R}$, is continuous at $x = 0$ and $x = 1$.

Q20) Find $\frac{dy}{dx}$ if:-

(i) $x \sec y + y \cos x + 3xy = 4$

(ii) $y = \tan^{-1} \frac{3x - x^3}{1 - 3x^2}$

(iii) $y = \frac{e^{2x} + e^{-2x}}{e^{2x} - e^{-2x}}$

(iv) $y = \sqrt{\log \{ \sin(x^2 - 1) \}}$

(v) $y = \sin^{-1} \left[\frac{3}{2} \frac{\sqrt{1+x} - \sqrt{1-x}}{2} \right]$

(vi) $x\sqrt{1+y} + y\sqrt{1+x} = 0$

(vii) $y = (\cos x)^{\log x} + (\log x)^x$

Q21) Verify Rolle's theorem for the following functions:-

Q1) $f(x) = \frac{1}{4x-1}$, $[1, 4]$

Q2) $f(x) = \sin^4 x + \cos^4 x$, $[0, \pi/2]$

Q3) $f(x) = [x]$; $[0, 1]$

Q22) Verify the applicability of Lagrange's Mean Value theorem for each of the functions:-

Q4) $f(x) = \sin x - \cos x$ in interval $[\pi/4, 5\pi/4]$

Q5) $f(x) = (x-a)^3 (x-b)^4$ [a, b]

Q6) $f(x) = x(x+3)e^{-x/2}$ [-3, 0]

Q23) Let $f(x) = \frac{\sqrt{4+x}-2}{x}, x \neq 0$. For $f(x)$ to be continuous at $x = 0$, find $f(0)$.

Q24) Find dy/dx : $\sin^2 y + \cos xy = \pi$.

Q25) Differentiate $\tan^{-1}\left(\frac{3x-x^3}{1-3x^2}\right)$ w.r.t. $\tan^{-1}\left(\frac{x}{\sqrt{1-x^2}}\right)$.

Q26) Determine $f(0)$, so that the function $f(x)$ defined by

$$f(x) = \frac{(4^x-1)^3}{\sin^{\frac{x}{4}} \log\left(1+\frac{x^2}{3}\right)}$$
 becomes continuous at $x=0$.

Q27) Discuss the continuity of function at $x = \frac{\pi}{2}$.

$$f(x) = \begin{cases} \frac{k \cos x}{\pi - 2x} & \text{at } x \neq \frac{\pi}{2} \\ 4 & \text{at } x = \pi/2 \end{cases}$$

Q28) If $x = 3\cos\theta - 2\cos^3\theta$ and $y = 3\sin\theta - 2\sin^3\theta$; find $\frac{d^2y}{dx^2}$.

Q29) Verify Lagrange's Theorem for the function $f(x) = x^3 + 2x + 3$, on [4, 6].

Q30) If $y = (\log x)^x + x^{\log x}$, find dy/dx .

Q31) If $x = a(\theta + \sin\theta)$, and $y = a(1 - \cos\theta)$, find $\frac{d^2y}{dx^2}$ at $\theta = \frac{\pi}{2}$.

Q32) If $y = \log [x + \sqrt{x^2 + a^2}]$, prove that $(x^2 + a^2) \frac{d^2y}{dx^2} + x \frac{dy}{dx} = 0$

Q33). For what value of α , is the function defined by

$$f(x) = \begin{cases} \alpha(x^2 - 2x), & \text{if } x \leq 0 \\ 4x + 1, & \text{if } x > 0 \end{cases}$$

is continuous at $x = 0$? What about continuity at $x = 1$?

Q34) Find $\frac{dy}{dx}$ if $x^y + y^x = 1$

Q35) If $x = \sqrt{a^{\sin^{-1} t}}$, and $y = \sqrt{a^{\cos^{-1} t}}$, show that $\frac{dy}{dx} = \frac{-y}{x}$