

**DAV MODEL SCHOOL SECTOR 15 A CHANDIGARH**  
**ACCOUNTANCY ASSIGNMENT (2021)**  
**NON PROFIT ORGANISATION**

1. Compute the income from Subscription for the year 2018 from the following particulars relating to a club

Particulars	1-4-2017 (₹)	31-3-2018(₹)
Outstanding Subscription	95,000	70,000
Advance Subscription	28,000	52,000

Subscription received during the year ₹8,80,000

2, Compute the income from subscription for the year 2018 from the following particulars relating to a club.

- (a) Subscription in arrears on 31-12-2017 – ₹6200
- (b) Subscription received in advance on 31-12-2017 ₹ 12,000
- (c) Total Subscription received during the year 2018 (Including ₹5,200 for 2017 and ₹ 11,000 for 2019) ₹6,60,000
- (d) Subscription outstanding for 2018 ₹4,000.

3. Prepare a Subscription Account from the following for the year ending 31st March 2019.

- (a) Subscription in arrears on 31-03-2018 – ₹500
- (b) Subscription received in advance on 31-03-2018 ₹ 1,100
- (c) Total Subscription received during the year 2018-2019 (Including ₹ 1,600 for 2019-2020) ₹48,000
- (d) Subscription outstanding for 2018-2019 ₹400.

4. From the following extracts of Receipts and Payments account and the additional information, you

are required to calculate the income from Subscription for the year ending 31st December 2018 and show them in the Income and Expenditure account and the Balance sheet of a club.

Receipts and Payments account

Receipts	₹	Payments	₹
To Subscription			
2017 5,000			
2018 30,000	41,000		
2019 6,000			

Information: (a) Subscription outstanding as on 31-12-2017 ₹6,000 (b) Subscription outstanding as on 31-12-2018 ₹5,000 (c) Subscription received in advance on 31-12-2017 ₹6,000.

5. How will you deal with the following items while preparing the Income and Expenditure account for the year ending 31st December 2018 and the Balance sheet as on that date?

Receipts		Payments	
To Subscription			
2017 25,000			
2018 1,00,000	1,45,000		
2019 20,000			

Information: The club has 50 members, each paying annual subscription of `2,500. Subscription outstanding on December 31, 2017 were `30,000.

6. How will you deal with the following items while preparing the Income and Expenditure account for the year ending 31st December 2018 and the Balance sheet as on that date?

To Subscription			
2017 9,000			
2018 1,34,400	1,48,600		
2019 5,200			

Information: The club has 1,440 members, each paying annual subscription of `100. Subscription outstanding on December 31, 2017 were `9,200. Subscription received in advance as on 31-12-2017 `2,800 (including `800 for 2018).

7. How will you deal with the following items while preparing the Income and Expenditure account for the year ending 31st December 2018 and the Balance sheet as on that date?

Particulars	1-1-2018 (₹)	31-12-2018 (₹)
Amount due to Suppliers of Sports Material	15,000	9,750
Advances to suppliers of Sports Material	5,000	3,250
Stock of Sports Material	15,000	2,500

During the year 2018, the payment made to these creditors were `54,000. There was no cash purchase.

8. Sports fund as on 1.4.2018 1,00,000  
 Sports Fund investments 1,00,000  
 Donations for sports fund 40,000  
 Interest on sports Fund Investments 10,000  
 Sports prizes awarded 30,000  
 Expenses on sports events 10,000  
 General fund 2,00,000  
 General fund investment 2,00,000  
 Interest on General Fund investment 20,000

9. How will you deal with the following items while preparing the Income and Expenditure account for the year ending 31st December 2018 and the Balance sheet as on that date?

(a)

Donation received during the year for the Construction of a Permanent Pavilion	₹7,54,000
Expenditure incurred up to 31 <sup>st</sup> Dec. 2018	₹5,92,000
The construction work is continuing, the total Estimated expenditure of construction of Pavilion being	₹20,00,000

(b)

Tournament Fund	₹3,760
Donation received for Tournament during the year	₹18,400
Expenses incurred during the year on conducting tournaments	₹20,200

(c) Life membership fee received during the year ₹16,000

10. Following is the extract from the Receipts and Payments Account of a sports Club. You are required to show different items in the Income and Expenditure Account and Balance sheet of the club for the year ended 31st March, 2018 after considering the additional information given below:

Receipts	₹	Payments	₹
To Donation for Pavilion	20,00,000	By Governor's Party Expense	4,80,000
To Contribution for Governor's Party	4,00,000		
To Donations	10,000		

Additional Information:

(i) Amount spent on Pavilion ₹40,00,000. The construction work is in progress and has not yet completed.

(ii) Outstanding Subscription for Governor's Party ₹60,000.

(iii) Capital Fund as at 31st March, 2017 ₹20,00,000

(iv) Pavilion Fund as at 31st March, 2017 ₹80,00,000

11. Show the following in the financial statements of a Not for Profit Organization.

Prize Fund ₹8,00,000,

Prize fund Investment ₹8,00,000

Donation for Prize Fund ₹2,00,000,

Interest received on Prize Fund Investment ₹80,000 and

Interest accrued on Prize fund Investment ₹20,000

12. Show the following in the financial statement of a Not for Profit Organization.

Sports Fund ₹500,000,

12% Sports fund Investment `5,00,000  
Donation for Sports Fund `1,60,000,  
Interest received on sports Fund Investment `30,000 and  
Interest accrued on Prize fund Investment for 6 months.

Fundamental of Partnership

**In the absence of Partnership Deed**

Q. 1. Mahesh and Ramesh are partners with capitals of Rs. 50,000 and Rs. 60,000 respectively. On 1st January 1998, Mahesh gives a loan of Rs. 10,000 and Ramesh introduced Rs. 20,000 as additional capital. Profit for the year ending 31st March 1998 was Rs. 15,200. There is no partnership deed. Show how the profits would be divided? Give reasons. (Delhi, A1 2001)

Interest on Capital

Q. 2. A and B are partners sharing Profit or Loss in the ratio of 3 : 2 having capitals balances of Rs. 50,000 and Rs. 40,000 on 1.4.2003. On 1st July, 2003 A introduced Rs. 10,000 as his additional capital whereas B introduced only Rs. 1,000. 10% interest on capital is allowed to partners.

Calculate the interest on capital if the financial year closes on 31st of March every year.

Interest on Drawings

Q. 3. B and W are Partners in a firm. They withdrew Rs. 18,000 and Rs. 36,000 respectively during the year evenly at the middle of every month. According to partnership agreement, interest on drawing is to be charged @ 10% p.a. Calculate the interest on drawings of the partners using appropriate formula.

Q. 4. Vinod and Mohan were partners in a firm. The partnership agreement provided that interest on drawings was to be charged @ 12% p.a. Vinod had withdrawn following amounts during the year ended 31.12.2003.

Date Amount Withdrawn (Rs.)

01.01.2003 10,000

31, 03.2003 16,000

01.07.2003 20,000

31.12.2003 4,000

Calculate interest on Vinod's drawings.

Q. 5. How will you calculate interest on drawings of equal amounts on the first every month of a calendar year?

Q. 6. How will you calculate interest on drawings of equal amounts on the last day of every month of a calendar year?

Q. 7. How will you calculate interest on drawings of equal amount on the 15th day of every month of a calendar year?

Profit and Loss Appropriation Account

Q. 8. Geeta and Meeta were partners in a firm sharing profits in the ratio of 5:3. Their fixed capitals were Rs. 3,00,000 and 2,00,000 respectively. The partnership deed provided that:

(a) Interest on capital should be allowed @ 12% p.a.

(b) Meeta should be allowed a salary of Rs. 40,000 p.a.

(c) A commission of 5% of the net profit should be allowed to Meeta. The net profit for the year ended 31.3.2001 was Rs. 2,00,000.

Prepare profit and loss appropriation account.

### **Past Adjustments**

Q9. X, Y & Z are partners sharing profits and losses in the ratio of 3 : 2 : 1. After the final accounts have been prepared, it was discovered that interest on drawings had not been taken into consideration. The interest on drawings of partners amounted to X Rs. 250, Y Rs. 180 and Z Rs. 100. Give the journal entries.

Q10. Ram and Mohan were partners in a firm sharing profits in 3 : 2 ratio. Their fixed capitals were: Ram Rs.120000 and Mohan Rs. 90,000. For the year 1999, interest on capital was credited to them @ 6% instead of 5%. Give necessary adjusting entry for the rectification of the error. Show also the working notes clearly.

Q11. Ram, Shyam and Mohan were partners in a firm sharing profits and losses in the ratio of 2 : 1 : 2. Their capitals were fixed at Rs. 3, 00,000, Rs. 1, 00,000, Rs. 2, 00,000. For the year 1996, interest on capital was credited to them @ 9% instead of 10% p.a. The profits for the year before charging interest were Rs. 2,50,000. Show your working notes clearly and pass the necessary adjustment entry.

Q. 12. After including the profits for the year ended 31st March 2001 the capital accounts of Savitri, Savita and Santosh stood at Rs. 20,000, Rs. 15,000 and Rs. 10,000 respectively. Subsequently, it was discovered that interest on capital at 10% p.a. had inadvertently been ignored. The profits for the year in arriving at the above figures of capitals amounted to Rs. 10,000. They shared profits and loss in the ratio of 2 : 1 : 1 respectively. Give the necessary Journal entry to rectify the above

Q. 13. P, Q and R were partners in a firm sharing profits in the ratio 1 : 2 : 2. After division of the profits for the year ended 31.03.2001 their capitals were: P Rs.150000, Q Rs.1,80,000; and R Rs.2,10,000. During the year they withdrew Rs.20,000 each. The profit of the year was Rs. 60,000. The partnership deed provides that interest on capital will be allowed @ 10% p.a. While preparing the final accounts, interest on partners' capital was not allowed.

You are required to calculate the capital of P, Q and R as on 1.4.2000 and pass the necessary adjustment entry for providing interest on capital. Show your workings clearly (Delhi 2002)

Q. 14. The partners of a firm distributed the profits for the year ended 31st March Rs. 1,50,000 equally without providing for the following adjustments:

- (i) A and C were entitled to a salary of Rs.5,000 per annum.
- (ii) B was entitled to a commission of Rs.5,000.
- (iii) A and C had guaranteed a minimum profit of Rs.60,000 per annum
- (iv) Profits were to be shared in the ratio of 2 : 2 : 1.

Pass necessary Journal entry for the above adjustment in the books.

Guarantee of Profit

Q. 15. The partners of a firm distributed the profits for the year 31st March 2003 Rs. 90,000 in the ratio of 3 : 2 : 1 without providing for the following adjustment

- (i) A and C were entitled to a salary of Rs.1,500 per annum.
- (ii) B was entitled to a commission of Rs.4,500.
- (iii) B and C had guaranteed a minimum profit of Rs.35,000 per annum.
- (iv) Profits were to be shared in the ratio of 3 : 3 : 2.

Pass necessary Journal entry for the above adjustments in the books

Q. 16. P, Q and R are partners in a firm. Their profit sharing ratio is 3 : 2 : 1 However R is guaranteed a minimum amount of Rs. 10,000 as share of profit every year. Any deficiency arising on that account shall be met by Q. The profits for two years ending December 31st 1993 and 1994 were Rs.45,000 and Rs.75,000 respectively. Prepare Profit and Loss Appropriation Account for the two years.

Q. 17. X, Y and Z were partners, sharing profits in the ratio 2 : 2 : 1. Z was guaranteed a minimum profit of Rs.20, 000. The profits of the firm for the year ended 31.3.2000 were Rs.80,000. Prepare P & L Appropriation A/C.

Q18. Rajat, Nimesh and Vishesh entered into a partnership on 1st April, 1998 to share profits and losses in the ratio of 4 : 3 : 3. Rajat, however, personally guaranteed that Vishesh's share of profit after charging interest on capitals at 5% p.a. wouldn't be less than Rs.30,000 p.a. The capital contributions were: Rajat Rs.3 lakhs, Nimesh Rs.2 lakhs and Vishesh Rs.1 lakh. The profits for the period ended 31st December, 1998 were Rs.1,20,000. Show the distribution of profits.

## Do the following activities:

- a. Quiz on NON PROFIT ORGANISATION (Roll No 1-13)  
Quiz on FUNDAMENTALS (Roll No 14-27)

b . Any form of 3D/2D art depicting Income and Expenditure Account or Balance Sheet of Non Profit Organisation like wall hanging, beam balance, cartoon animations

## COMPETENCY BASED QUESTIONS

Class -XII

SUBJECT: ACCOUNTANCY

CASE STUDY 1

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 \_\_\_\_\_.

2. VIJAYA SHANKAR, an Ex-Indian cricketer decided to start a cricket academy to train the young enthusiastic players of down south. With the support and guidance of his family he started the Star cricket academy at Tirunelveli township area on 1st April 2020. Land was donated by his grandfather worth Rs. 10,00,000 as per his will. His father Shankar donated Rs.5,00,000 for the construction and running the academy. He spent Rs.3,00,000 for construction of the pavilion. 200 players of Tirunelveli joined the academy and they paid yearly subscription of Rs.1200 each. 10 players paid in advance for the next year 2021 -22. Vijayashankar appointed well experienced coach for them, the coach fee amounted to Rs. 1,20,000 p.a.

The maintenance expenses amounted to Rs.75,000. Bats and balls purchased during the year amounted to Rs.15,000. Closing stock of bats and ball amount to Rs.1000.

Based on the above information you are required to answer the following question.

- 1 What is the Primary source of income for the academy?
- 2 The amount of subscription to be credited to income and expenditure account-----
- 3 How will you treat the land donated by his grandfather?
- 4 The liability towards advance subscription amounted to:
  - (a) Rs. 12,000
  - (b) Rs.24,000
  - (c) Rs.1,200
  - (d) Rs.1,20,000
- 5 The amount of subscription received as per Receipts and payments Account of Star cricket club is:
  - (a) Rs.2,52,000

- (b) Rs.2,40,000
- (c) Rs.2,50,000
- (d) None of the above

6 What amount should be charged to the Income and Expenditure account for bats and balls consumed during the year?

- (a) Rs.15,000
- (b) Rs.16,000
- (c) Rs.14,000
- (d) Rs.13,500

Q. Complete all the numericals given at the back of Chapter 1 to 3

### **D.A.V MODEL SCHOOL SECTOR-15-A CHANDIGARH HOLIDAYS HOMEWORK OF BUSINESS STUDIES**

#### **VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)**

1. “Planning, Organizing, Staffing, Directing and controlling” is the sequence of functions in a process. Name it.

2. Name that intangible force which creates productive relationships among resources of an organization.

3. What is the main objective of any organization?

4. Production manager tries to produce goods with minimum costs. Name the concept which is being focused by management?

5. What do you mean by effectiveness?

6. In order to be successful, an organization must change its according to the needs of the environment. Which characteristic of management is highlighted in the statement?

7. Give one designation each of top and middle level management?

8. Your Grand Father has retired as the director of a manufacturing company. At what level of management was he working.

9. Why is management called inexact science?



10. 4. A sales person is asked to finalize a deal with customer. The marketing manager allows him to give a discount of up to 10% but the Finance Manager allows him to give discount of upto 25%. Which principle is violated here?

11. “Workers should be encouraged to develop and carry out their plans for development.” Identify the principle of management formulated by Fayol.

12. Which principle does functional foreman ship violate?

13. Give any one effect of principle of division of work?

#### **SHORT ANSWER TYPE QUESTIONS (3 OR 4 MARKS)**

1. Explain the meaning of management. What do you mean by managers?

2. ‘Management is a process’ Explain?

s.

3. ‘Management is multi-dimensional’. Explain?

4. What are the personal objectives of the management?

5. Enumerate the importance of management.

6. What do you mean by level of management?

7. Define co-ordination. Enumerate the features of co-ordination?

8. Explain briefly the technique of fatigue study?(3or4)

9. Give positive effects of the principle of ‘discipline’. (3or4 )

10. Explain the Principle of centralization and decentralization. -[3or 4 marks.]

11. Ms. Ritu and Mr. Mohit are Data Entry Operators in a company having same educational qualifications. Ritu is getting Rs. 5,000 per month and Mohit Rs. 6,000 per month as salary for the same working hours. Which principle of management is violated in the case? Name and explain the principle.

#### **LONG ANSWER TYPE QUESTIONS (5 OR 6 MARKS)**

Q1. Explain the organizational objectives of management..

Q2. Explain the ‘social objectives’ of management.

**Q3. Do you mean by ' Personal Objectives' of management? Enumerate personal objectives of management.**

**Q4. Explain five functions of top-management.**

**Q5. Mohan works on the floor of a mall as a manager. He is very hard working but is unable to produce results for his organisation. His target for last month was a sale of 10 lakh rupees from his floor. However by the end of the month the sale was only 8 lakh rupees. He is very regular and takes all the necessary steps to complete the target. However his staff is not as competent as he himself is. When he tries to take action against disobedient employees the top management doesn't allow him to do so. They haven't given him the power to fire employees or take any strict action against them.**

**Which principle of Fayol is violated here by the Organisation? 1.**

**Q6. Enlightened Souls Pvt. Ltd. is a tube light manufacturing company. Before the start of the year they had promised their employees for bonus for extra production. It was also decided that those who will put extra time will be paid extra according to the number of hours. However people in the HR department who worked very hard later complained that they were not compensated for the extra number of hours that they used to stay in the office.**

**Which principle of Fayol is violated here?**

**Q7. Rohan and Amit are working in the purchase department of a company. Rohan is the brother-in-law of the managing director of the company whereas Amit has been recruited from an external source. They both have been performing below average for the last couple of months. Many people in the organisation talk about their lack of responsibility. When the managing director of the company came to know about their irresponsible behaviour he immediately suspended Amit but did not take any action against Rohan. Identify the principle of Fayol which has not been followed by the managing director in the above case. 1**

**Q8. Aditi who is heading the campus recruitment program of the firm that she is working in, gets an immediate order from the marketing head of the organisation. Mr. Rupesh asks her to hire only those candidates who have two years experience in the field of marketing and offer them a higher package. Moments later when she is about to enter the campus she gets another call from the HR head who asks her to hire candidates with zero experience. He gives her the logic that such candidates would be expecting lower packages in**

comparison to the candidates having experience in the industry. Which principle of Fayol stands violated here? What is the immediate outcome of the violation of this principle? State the principle. 3

Q9. Aapka Apna Vehicles is a vehicle manufacturing company. The company has the same unit producing both scooters and cars. This leads to confusion among the employees regarding the reporting as well as differentiation of work. Which principle of Fayol is violated here? Why? State the principle. Give an immediate outcome of the violation of this principle. 4

Q10.. Twenty new employees have started their career in XYZ Ltd. The employees are new to the environment of the organisation and have no idea about the demanding jobs. The management has decided to give them three months of time to show their results. Which principle of Fayol is followed here? How does this principle help the organisation?

Q10. Bright Services is a taxi service provider. The company is targeting a revenue of 50 crore rupees this year. However with the passage of time it has found entrance of new service providers in the market which was not expected at one stage of time. It has a good team of technicians, drivers, software providers, etc. The company has decided to make it adaptable to such continuously changing circumstances. It knows that if it has to expand in new countries it will have to learn the basic differentiating factors like traffic rules, technological aspects, etc. Thus it understands that conditions are different in different countries.

Which features of Business Environment are discussed in the above case? Which force is discussed above?

Q11. ABCDEF Ltd. decided to start its new venture in Delhi. For this they needed to understand the Business Environment of the area. It was realised by the company that the Business Environment of Delhi was very hard to understand unless and until it was divided into different business dimensions like legal, political, economic, social and technological conditions. After understanding the business situations the company started to study the close links between different elements of the Business Environment. They gave a proper shape to their research and the business got started with full force. Later they realised that the products they were selling in Delhi were more fit for the European culture and decided to start a new branch in Belgium where the demand of their products was very high from the first day. The company came to be recognized and in few years became a global brand. The reason for its success in different countries was the adaptability' it showed in meeting the changing environment. The company kept track of all happenings and did a

periodic survey of the choices of the customers. It recognized that there was no surety in the nature of market and it was very unpredictable.

Which features of Business Environment have been highlighted in the above case? Identify the lines which highlight these features.

**Q12.**A company is a component of market. It utilises various raw materials, labour force, human resources, power, water, other sources, etc. When all these resources are utilized output is produced. But before output is produced the input has to go through various operations. These operations convert the raw materials into final products which are then sold in the market.

In the above paragraph which importance of Business Environment is highlighted?

**Q13.**The market is flooded with better quality toys of foreign origin. The result is fall in revenue of the indigenous or local companies as their products are much inferior and are also costlier in less demand in the market.

Which dimension of Business Environment can be seen here affecting the local companies' revenue? 1

**Q14.**The sale of sarees increases in the months of the year when a large number of marriages take place in India. The saree manufacturing companies make special plans of sale for these months.

**Q15.**Which dimension of business environment comes into picture here?

We can expect high sale of sarees in India but we can't expect the same in

Which feature of business environment is discussed in the previous line?

**Q16.**Advertisements of a protein supplement must inform the potential buyer that the product if taken beyond a given dose can be harmful to the diabetics.

Which dimension of business environment is highlighted here?

**Q17.**Long Drive Manufacturers is a leading vehicle manufacturing company. It claims that it can create a fuel in its laboratory which can run the newly designed car. The company is ready to provide this fuel to its customers for free for one year provided they buy the car.

Which dimension of business environment is affected here by the company's innovative solution? 1

**Q18. Identify the various dimensions of business environment:**

1. With the election of a new government the sensex drops by 748 points.
2. A particular channel refrains from showing the advertisement of a particular product as it is banned by the government.
3. A software is in high demand among the industrial buyers as it can connect all the branches of a company as a single integrated unit.
4. At the time of holi a large number of manufacturing firms get involved in making colours which are used in the celebration of this colourful festival.
5. It is not advisable to open a luxury car showroom in the middle of an economy where per capita income is very low.

**Q19. Define Planning. What are the various steps involved in planning.**

**Q20. Discuss in brief various limitations of planning.**

**PROJECT WORK ON BUSINESS STUDIES.**

**CHAPTER-BUSINESS ENVIRONMENT.**

1. Changing role of the women in the past 25 years relating to joint families, nuclear families, women as a bread earner of the family, changes in the requirement trend of mixers, washing machines, micro wave and standard of living.
2. The changes in the pattern of import and export of different products.
3. The trend in the changing interest rates and their effect on savings.
4. A study on child labor laws, its implementation and consequences.
5. The state of 'anti plastic campaign,' the law, its effects and implementation.
6. The laws of mining /setting up of industries, rules and regulations, licenses required for running that business.
7. Social factors affecting acceptance and rejection of an identified product. (Dish washer, Atta maker, etc.)

**CLASS - 12**

# ***PHYSICAL EDUCATION***

## ***HOLIDAY HOMEWORK***

### **● *PROJECT :-***

TOPIC :- Yoga & LIFESTYLE

a) Meaning Of YOGA.

b) Asanas as preventive measures.

c) Benefits of Asanas.

d) Explain the procedure, benefits, and precautions and contraindications of :-

- Hastottanasana, Trikonasana, Chakrasana, Ardha matsyendrasana, Paschimottasana, Pawan muktasana, Sukhasana, Gomukhasana, Parvatasana, Tadasana, Ardha Chakrasana, Shavasana, Vakrasana, Shalabhasana.

e) Paste pictures related to the Asanas.

## **2. Make A File :-**

- a) Write about a game :- FOOTBALL.
- b) Rules and Regulations of the game.
- c) Measurements
- d) Draw a diagram of FOOTBALL ground.(ART INTEGRATION)
- e) Paste relevant pictures.

## **3. MULTIPLE CHOICE AND VALUE - BASED QUESTIONS :-**

## MULTIPLE CHOICE QUESTIONS

1. Yogasutra was compiled by :  
(a) Patanjali (b) Gheranda (C.B.S.E.)  
(c) Shivananda (d) Svatmarama
2. According to Patanjali, the definition of Asana is (C.B.S.E.)  
(a) control of sense organs (b) sitting in a cross-legged position  
(c) sitting in a comfortable position (d) control of diet and water intake.
3. How many types of Asanas are there in Yoga ? (C.B.S.E.)  
(a) 3 (b) 4  
(c) 5 (d) 12
4. Which Asana is good for the performance of the Excretory System ? (C.B.S.E.)  
(a) Sukhasana (b) Tadasana  
(c) Pawanmuktasana (d) Virabhadrasana
5. Which asana can be practiced immediately after eating food ?  
(a) Hastottanasana (b) Trikonasana  
(c) Ardhamatsyendrasana (d) Vajrasana
6. In Hastottanasana, 'Hast' means  
(a) Abdomen (b) Chest  
(c) Arms (d) Head
7. In Sanskrit, Trikon word means :  
(a) Square (b) Rectangle  
(c) Circle (d) Triangle
8. Bhujangasana is also called as :  
(a) Cobra pose (b) Tiger pose  
(c) Peacock pose (d) Cow pose
9. This asana assists in releasing trapped digestive gas from the stomach and intestines :  
(a) Paschimottanasana (b) Pawan Muktasana  
(c) Shavasana (d) Sarvangasana
10. In this asana, the body takes shape of a floating fish :  
(a) Paschimottanasana (b) Matsyasana  
(c) Shavasana (d) Sarvangasana
11. It resembles a dead body :  
(a) Pawanmuktasana (b) Matsyasana  
(c) Shavasana (d) Sarvangasana





12. According to WHO, the criteria for overweight as per BMI is (C.B.S.E.)  
 (a) 18.5 – 24.9 (b) 25 -29.9  
 (c) 30 – 34.9 (d) 35-39.9
13. Which asana improves efficiency of liver ? (C.B.S.E.)  
 (a) Vajrasana (b) Makrasana  
 (c) Ardhamatsyendrasana (d) Tadasana
14. Which asana is suggested to relax muscles after performing Vajrasana ? (C.B.S.E.)  
 (a) Sukhasana (b) Savasana  
 (c) Sarvangasana (d) Virabhadrasana
15. If BMI is 30 or higher; the person is in the :  
 (a) overweight category (b) underweight category  
 (c) normal weight category (d) obese category
16. The fundamental cause of obesity and over-weight is :  
 (a) Malnutrition (b) Balanced diet  
 (c) imbalance between calories consumed and calories expended  
 (d) All the above
17. In which disease, blood glucose, or blood sugar levels are too high ?  
 (a) Obesity (b) Diabetes  
 (c) Hypertension (d) Sinusitis
18. Most of what we eat is broken down into :  
 (a) Amino acids (b) Glucose  
 (c) Carbon (d) Nitrogen
19. Which type of diabetes occurs during pregnancy ?  
 (a) Type 1 (b) Type 2  
 (c) Gestational (d) Type 4
20. Which gland is associated with Diabetes ? (C.B.S.E.)  
 (a) Endocrine glands (b) Pituitary  
 (c) Pancreas (d) Hypothalamus
21. Polyurea is associated with : (C.B.S.E.)  
 (a) excessive sweat (b) less urination  
 (c) excessive saliva (d) excessive urination
22. Bhujangasana is also known as (C.B.S.E.)  
 (a) Dog posture (b) Child posture  
 (c) Cobra posture (d) Reverse Boat posture
23. Which disease occurs when pancreas is unable to make enough insulin ?  
 (a) Obesity (b) Diabetes  
 (c) Hypertension (d) Sinusitis
24. Symptoms such as coughing, wheezing, shortness of breath and/or chest tightness are caused in patients suffering from :



- (a) Diabetes (b) Obesity  
(c) Asthma (d) Back pain
25. What causes an Asthma Attack ? (C.B.S.E.)  
(a) Allergy (b) Smoke  
(c) Exercise (d) All of the above
26. Which asana is base asana for curing Asthma ? (C.B.S.E.)  
(a) Sukhasana (b) Chakrasana  
(c) Matsyasana (d) Parvatasana
27. Triggers such as pollen, dust can cause attack of :  
(a) Heart (b) Migraines  
(c) Back pain (d) Asthma
28. The force of our blood pushing against the walls of our arteries is called as :  
(a) Cardiac output (b) Blood pressure  
(c) Heart rate (d)  $VO_2$  Max
29. What is considered as normal blood pressure ?  
(a) 100/80 (b) 180/120  
(c) 140/90 (d) 120/80
30. At what point is Blood pressure considered high : (C.B.S.E.)  
(a) 80/120 (b) 130/80  
(c) 140/90 (d) 210/120
31. The asanas which help to increase the concentration power are called as :  
(a) Relaxative asanas (b) Cultural asanas  
(c) Dhyanatmak asanas (d) Corrective asanas
32. Which of the following asanas gives a posterior stretch to the spinal column ?  
(a) Sukhasana (b) Paschimottanasana  
(c) Shavasana (d) Gomukhasana
33. Which asana is known as Mountain Pose ?  
(a) Matsyasana (b) Tadasana  
(c) Parvatasana (d) Shalabhasana
34. Which of the following can be a risk factor for diabetes ?  
(a) Obesity (b) Asthma  
(c) Regular Exercise (d) All of the above
35. Which system of the body is affected in Asthma ?  
(a) Circulatory System (b) Respiratory System  
(c) Endocrine System (d) Musculoskeletal System
36. Which type of hypertension appears suddenly, due to an underlying condition ?  
(a) Secondary Hypertension (b) Primary Hypertension  
(c) Tertiary Hypertension (d) None of the above
37. Which of the following is not a cause of Obesity ?  
(a) Lack of Physical activity (b) Genetics  
(c) Balanced diet (d) Psychological factors

38. Which of the following asana should be performed for curing Obesity ? (C.B.S.E. SQP 2020)

- (a) Trikonasana (b) Bhujangasana  
(c) Pawanmuktasana (d) Tadasana

39. Which amongst these is a sitting asana ? (C.B.S.E. SQP 2020)

- (a) Ardh-Matsyendrasana (b) Padahastasana  
(c) Ardh Chakrasana (d) Trikonasana

40. Given below are the two statements labeled Assertion (A) and Reason (R) :

A: Asthma is a cardiac condition.

R: Asthma is a condition that causes occasional breathing difficulties which is caused by swelling of the breathing tubes that carry air in and out of the lungs.

In the context of above two statements, which one of the following is correct ?

- (a) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(b) Both (A) and (R) are true, but (R) is not the correct explanation of (A).  
(c) (A) is true, but (R) is false.  
(d) (A) is false, but (R) is true.

41. One of the possible causes for Obesity could be ? (C.B.S.E. Sample Paper, 2021)

- (a) Heredity (b) Excessive eating  
(c) Fast metabolism (d) Both (a) & (b)

42. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R):

Assertion (A): Blood pressure is also used as a guide to the efficiency of the heart and blood vessels. Normal values are 120 mm/80 mm.

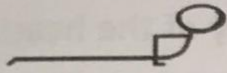
Reason (R): At systole, when the heart thrusts from the left ventricle into the aorta, the pressure is 120 mm. At diastole, the left ventricle is being refilled, the pressure is 80 mm.

In the context of the above statements, which one of the following is correct ?

- (a) Both (A) and (R) are right, but (R) is not the correct explanation of (A).  
(b) Both (A) and (R) are right and (R) is the correct explanation of (A).  
(c) (A) is right, but (R) is wrong.  
(d) (A) is wrong, but (R) is right.

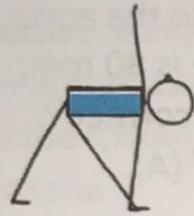
14. Identify the below given Asanas and write the names :

(a)



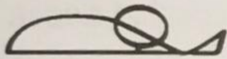
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(b)



.....

(c)



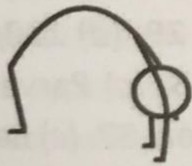
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(d)



.....

(e)



.....

(f)



.....

15. Identify the below given asanas and write their names :



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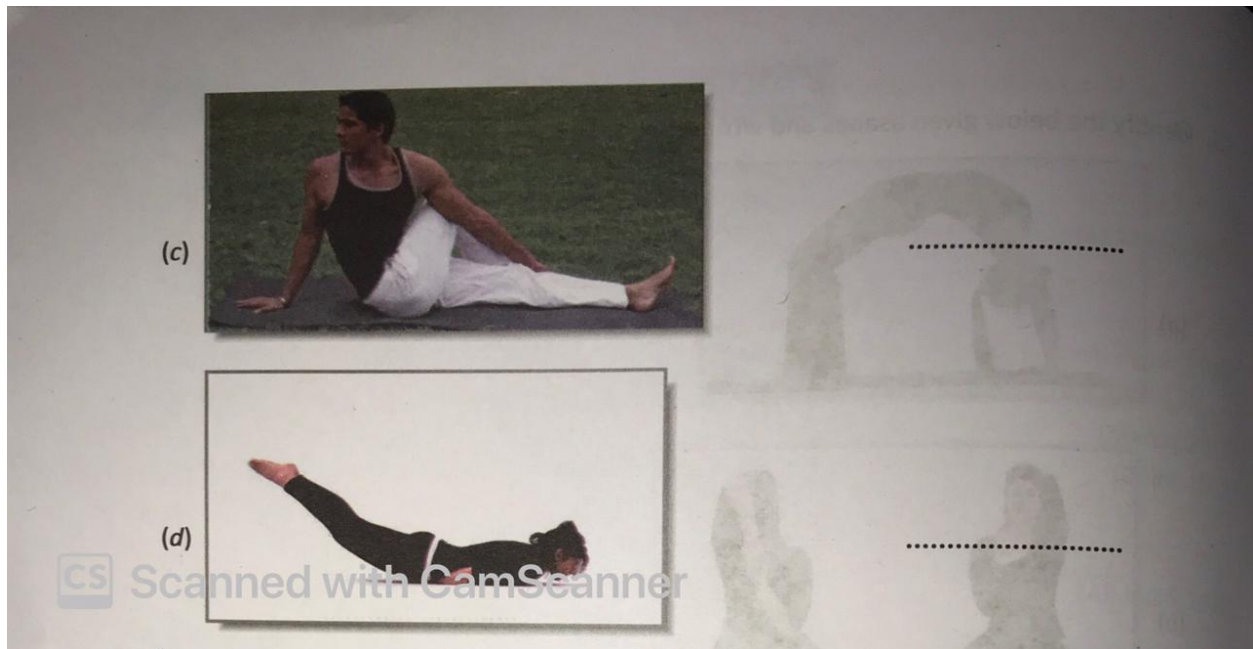
16. Identify the below given asanas and write their names :



.....



.....



Summer Vacation Holiday Homework (June 2021)  
COMPUTER SCIENCE WITH PYTHON  
CLASS 12 ALL STREAMS

Assignment : Do be done in notebook  
Topic -PYTHON FUNCTIONS

Q1. What are functions? What is the need of using functions?

Q2. What are arguments and parameters?

Q4. What is the difference between keyword and positional arguments?

Q5. Explain the difference between global and local variable with the help of an example.

Programs( Do any 15 questions from Q6-Q25)

Q6. Write a Python function that takes a number as an argument and print its square.

Q7. Write a Python function that takes a number as an argument and prints “ODD” if the number is odd otherwise prints “EVEN”.

Q8. Write a Python function that takes a number as an argument and print the sum of all numbers from 1 till that number.

Q9. Write a Python function that takes a number as an argument and returns the factorial of that number.

Q10. Write a Python function `calc_pow(num1 , num2)` that calculates the power of `num1` to `num2`.

Q11. Write a Python function that takes a list of numbers as parameters and displays those numbers that are divisible by 100.

Q12. Write a Python function that takes a list of numbers and a number as an argument and return 1 if the number is present in the list otherwise return 0.

Q13. Write a Python function that takes a list as parameter and returns the sum of all numbers that are even.

Q14. Write a Python function a number as an argument and returns “PALINDROME” if the number is a palindrome otherwise return “NOT A PALINDROME”. Also write a program to invoke this function.

Q15. Write a Python function that takes a string as an argument and count the number of vowels and consonants in it. Also write a program to invoke this function.

Q16. Write a Python function that takes a string as an argument and replace all capital alphabets with small alphabets. Also write a program to invoke this function.

Q17. Write a Python function that takes a string as an argument and count the occurrences of word “The/the” in it. Also write a program to invoke this function.

Q18. Write a Python function that takes a list of numbers as an argument and display the maximum and minimum numbers present in the list. Also write a program to invoke this function.

Q19. Write a Python function that takes a list of numbers as an argument and display the count of positive and negative numbers present in the list. Also write a program to invoke this function.

Q20. Write a Python function that takes a list of strings as an argument and displays the strings which starts with “A” or “a”. Also write a program to invoke this function.

Q21. Write Python script to create a dictionary with famous monuments and their location. Write a function that accepts name of any monument and dictionary of monuments as an argument and check whether that monument is present in the dictionary or not. If the monument is not present in the dictionary then add it to the dictionary.

Q22. Write Python script to create a dictionary with players name and their score. Write a function that accepts this dictionary as an argument and displays the name of the player with highest score.

Q23. Write a complete menu driven calculator program that inputs two numbers and an operator(+,-,\*,\*\*) and perform the desired operation. Write separate functions to perform each of the above operations.

Q24. Write a complete menu driven program to create a dictionary containing ProductNo, ProductName and ProductPrice and perform the following operations:

Add a new product

Modify the existing product

Delete a product from the dictionary

Display the dictionary

Display the items of the dictionary in ascending order of ProductPrice

Write separate functions to perform the above operations.



Q25. Write a function that accepts a list of names as parameter and count the names that are palindromes. Also write a program to invoke this function.

### **Questions based on text file handling**

Q1. What is the difference between text and binary files?

Q2. Compare and contrast read(), readline() and readlines().

Q3. How is write() different from writelines()?

Q4. Explain various modes available in file handling?

Q5. Explain the difference between write and append mode of opening a file.

### **Programs (Do any 10 programs)**

Q6. Write a Python script to read a text file "Quotes.txt" and display only those lines that start with "E".

Q7. Write a Python script to read a text file "XYZ.txt" and count the number of lines which are comments (i.e. which start from "#").

Q8. Write a program to read a text file and display the words not starting with uppercase vowel.

Q9. WAP to read a text file and count number of lines starting by character inputted by user.

Q10. WAP to read a text file and to count number of times word "the" appears in file.

Q11. WAP to read a text file and count the number of lines ending with vowels.

Q12. Write a function to count the number of uppercase and lowercase alphabets and digits present in a text file "STORY.TXT".

Q13. Write a function to count the number of characters, words and lines present in a text file "STORY.TXT".

Q14. Write a program that reads a text file and displays the list of frequencies of words in it.

Q15. Write a program that reads a text file and displays all words which are less than 4 characters long.

Q16. Write a program to read a text file and create another text file toggling the case of all alphabets present in that file.

Q17. Write a program to read a text file and create another text file after deleting all occurrences of the words ending with “ing”.

Q18. Write a program to read a text file and create another text file replacing every occurrence of consecutive blank spaces by a single space.

Q19. Write a program that reads a text file and count the number of words starting with “sh”.

Q20. Write a program that reads a text file and create a new file after adding “ing” to all words ending with “t”, ”p” and “d”.

## CASE STUDY BASED/SOURCE-BASED INTEGRATED QUESTIONS (Do any 4)

1. Traffic accidents occur due to various reasons. While problems with roads or inadequate safety lead to some accidents, the majority of the accidents are caused by drivers carelessness and their failure to abide by traffic rules.

ITS Roadwork is a company that deals with manufacturing and installation of traffic lights so as to minimize the risk of accidents. Keeping in view the requirements, traffic simulation is to be done. Write a program in Python that simulates a traffic light. The program should perform the following :

(a) A user-defined function `traffictight()` that accepts input from the user, displays an error message if the user enters anything other than RED YELLOW and GREEN Function `lighti()` is called and the following is displayed depending upon return value from `light()`

- (i) "STOP, Life is more important than speed" if the value returned by `light()` is 0.
- (ii) "PLEASE GO SLOW " if the value returned by `light()` is 1.
- (iii) "You may go now." if the value returned by `light()` is 2.

(b) A user defined function `light()` that accepts a string as input and returns 0 when the input is RED 1 when the input is YELLOW and 2 when the input is GREEN. The input should be passed as an argument

(c) Display "BETTER LATE THAN NEVER" after the function `traffilight()` is executed.

2. Kids Elementary is a playway school that focuses on 'Play and learn' strategy that helps toddlers understand concepts in a fun way. Being a senior programmer, you have taken responsibility to develop a program using user-defined functions to help children differentiate between upper case and lower case letters/English alphabet in a given sentence. Make sure that you perform a careful analysis of the type of alphabets and sentences that can be included as per age and curriculum.

Write a Python program that accepts a string and calculates the number of upper case letters and lower case letters.

3. Ceremony Tent House manufactures tents as per the user's requirements. The shape of the tent is cylindrical surmounted by a conical top. The company performs the following tasks to fix the selling price of each tent .

- (a) Accept user requirements for the tent, such as
  - height
  - radius
  - slant height of the conical part

(b) Calculate the area of the canvas used.

(c) Calculate the cost of the canvas used for making the tent.

(d) Calculate the net amount payable by the customer that is inclusive of 18% tax  
The company has developed a computerized solution for a quick and accurate calculation of the payable amount. Write a Python program to calculate the cost of tent function definition.

4. Gurukul Academy uses "Student Management information System (SMIS) to manage student related data. This system provides facilities for :

1. recording and maintaining personal details of students,
2. maintaining marks scored in assessments and computing results of students,
3. keeping track of student attendance, and
4. managing many other student-related data

Let us automate this process step by step.

identify the personal details of students from your school identity card and write program using a user-defined function to accept these details for all students of your school and display them in the following format:

School Name	
Name: ABC	Roll No: 25
Age: 16	Class: XII
Address: Address line1	State: Delhi
Pin Code: 999999	

5. On the basis of the above scenario, write a user-defined function to:
  - Accept the marks of the student in five major subjects in Class XII and display the same.
  - Calculate the sum of the marks of all subjects.
  - Divide total marks by number of subjects, i.e., 5, and calculate and display the percentage

(percentage total marks/5).

- Find the grade of the student as per the following criteria:

Criteria	Grade
percentage > 90	A
percentage 90 and > =80	B
percentage 80 and >= 70	C
percentage < 70 and >= 60	D
percentage 60 and >= 40	E
percentage <40	RETEST

6. Gurukulam Academy is transforming its result processing unit into computerized "Student Management System". Help the institution to develop an integrated solution using concepts of Python List for adding new students to the existing list of students on the basis of marks obtained by them. (We assume the marks of ten students in the class.)

The entire processing system should support adding of updated marks, deleting the marks of students who have left the institution, followed by generating a report by arranging the marks of all the students in both ascending and descending order. It should also include insertion and deletion of students' marks at desirable position. Develop a Python program for the above scenario-based implementation.

**Project work :** Make a Graphical user Interface using Tkinter Library.(self study)

## Art Integration :

- Make a wall hanging on operators using waste cd's
- Create infographics on Python Libraries (use canva app)
- Mind map on Text files

# DAV MODEL SCHOOL, SECTOR -15 A, CHANDIGARH

## Holiday Homework (2021-2022)

### Class 12th, Subject- Economics

#### I. ASSIGNMENT

##### **Answer the following questions:**

1. Though the Zamindari system has been abolished legally, yet the goal of Equity in the distribution of Land could not be achieved. Why? Explain
2. Should we continue subsidies to agriculture in Indian conditions? Give your views.
3. It is said that New Economic Policy is the result of conditions imposed by World Bank and IMF. Do you agree?
4. Out of stabilization measures and structural measures under NEP, can you choose one of them? If not why? Explain
5. New agriculture technology based on HYV seeds, chemicals, fertilizers and pesticides has created many problems. Can you suggest an alternative to this kind of farming?
6. Discuss the economic consequences of partition on the Indian economy.
7. "The social and economic challenges before India at the time of independence were enormous." Do you agree with this statement? Give reasons.
8. "Progress of the Indian economy during the first seven plans was impressive indeed." Give valid reasons in support of your answer.
9. The demonetisation of currency undertaken by the government of India on November 8 2016 had an inverse it back on the economic activities .Do you agree with the statement. Give reasons in support of your answer.
10. Though, public sector is very essential for industries many public sector undertakings incur huge losses and are a drain on the economy's resources .Discuss the usefulness of public sector undertakings in the light of this fact.
11. "The process of globalisation through liberalization and privatization policies has produced positive as well as negative results for India and other countries." Defend or refute the above statement with valid reasons.

12. Explain how Goods and Services tax has simplified the multiplicity of taxes on goods and services.

13. Explain the transition from Planning commission to Niti aayog in the Indian planning process.

## II. CASE STUDIES

(i) Every society has to answer three questions What goods and services should be produced in the country? How should the goods and services be produced? Should producers use more human labour or more capital (machines) for producing things? How should the goods and services be distributed among people? In a market economy, also called capitalism, only those consumer goods will be produced that are in demand, i.e., goods that can be sold profitably either in the domestic or in the foreign markets. If cars are in demand, cars will be produced and if bicycles are in demand, bicycles will be produced. If labour is cheaper than capital, more labour-intensive methods of production will be used and vice-versa. In a socialist society the government decides what goods are to be produced in accordance with the needs of society. The government decides how goods are to be produced and how they should be distributed. In principle, distribution under socialism is supposed to be based on what people need and not on what they can afford to purchase. In Cuba and China, for example, most of the economic activities are governed by the socialistic principles. In a mixed economy, the market will provide whatever goods and services it can produce well, and the government will provide essential goods and services which the market fails to do.

Source: Indian Economic Development textbook

### **Answer the following questions:**

1. How do the market forces of supply and demand solve the three central problems in a market economy?
2. How does a socialist society answer the three basic questions of economy?
3. Do you think a mixed economy is more suitable for a developing country like India?
4. Do you think that in a capitalist economy most of the citizens would be left behind without the chance to improve their quality of life?

(ii). Look at the picture below and answer the questions that follows:



1. Identify the famous personality in the picture who is considered as father of New economic Policy.

2.-----means change in a set of policies and rules and regulations from one period of time to another to achieve economic growth.

3. Why did India change its economic policy in 1991?

4. Briefly explain positive and negative impact of the measures adopted under New Economic Policy .

### **III. ART INTEGRATION**

Update scrap file with news cuttings/clippings of domestic and world economy.

Work on mind maps,infographics,cartoon strips,poster/collage making on topics done

In the class

### **IV. PROJECT WORK**

Prepare and submit synopsis for the project work based on CBSE guidelines.

#### **Suggested topics are-**

**Micro and Small Scale Industries**

**Food Supply Channel in India**

**The contemporary Employment situation in India**

**Disinvestment policy of the government**

**Goods and Services Tax Act and its Impact on GDP**

**Health Expenditure (of any state)**

**Human Development Index**

**Inclusive Growth Strategy**

**Self-help group**

**Trends in Credit availability in India/Monetary policy committee and its functions**

**Role of RBI in Control of Credit**

**Planning commission vs.Niti Aayog**

**Monetary policy vs.Fiscal policy**

**Government Budget & its Components /Trends in the budgetary condition of India**

**Exchange Rate determination – Methods and Techniques**

**Currency War – reasons and repercussions**

**Livestock – Backbone of Rural India**

**Alternate fuel – types and importance**

**Sarwa Siksha Abhiyan – Cost Ratio Benefits**

**Golden Quadrilateral- Cost ratio benefit**

**Minimum Support Prices Relation between Stock Price Index and Economic Health of Nation**

**Waste Management in India – Need of the hour**

**Minimum Wage Rate – approach and Application**

**Digital India- Step towards the future**

**Rain Water Harvesting – a solution to water crises**

**Vertical Farming – an alternate way**



Silk Route- Revival of the past  
Make in India – The way ahead  
Bumper Production- Boon or Bane for the farmer  
Rise of Concrete Jungle- Trend Analysis  
Organic Farming – Back to Nature  
Exchange rate system  
Balance of payment  
Rural Development  
Human Capital Formation  
Inflation  
Oil prices  
Role of women in Indian economy  
Globalization and its Impact on the Indian Economy  
Comparison of Indian economy with the other economies of the world  
Role of International organisations like World Bank , IMF and Indian economy  
Environment and Sustainable Economic Development/Green GDP  
Any of Government programme/policy e.g. Ayushman Bharat, Skill India, MGNREGA etc.  
Any other newspaper article/topic and its evaluation on the basis of economic principles.

**Students should prepare the Economics Project as per the following headings:-**  
Cover page, title page, acknowledgement, certificate, objectives of study, research methodology, Index, Introduction of the concept, sub content/subject matter explanation, data Analysis (use of graphs, tables (latest data coverage), newspaper clips relating to topic, interpretation of tables and graphs, Conclusion, mention the sources from where data, graphs etc have been taken/Bibliography.

Holidays Homework  
DAV Public School  
Sec 15 Chandigarh  
Class 12- subject mathematics

Q.1). Show that the relation  $R$  in the set  $A = \{1, 2, 3, 4, 5\}$  given by  $R = \{(a, b) : a - b \text{ is even}\}$  is an equivalence relation.

Q.2) Show that the relation  $R$  in  $R$  defined by  $R = \{(a, b) : a \leq b\}$ , is reflexive and transitive but not symmetric.

Q.3) Let  $A = \mathbb{R} - \{3\}$  and  $B = \mathbb{R} - \{1\}$ , Consider the function  $f: A \rightarrow B$  defined by  $f(x) = \frac{(x-2)}{(x-3)}$ . Show that  $f$  is one-one and onto

Q4) Let  $A = \{1, 2\}$ . How many one-one functions from  $A$  to  $A$  are possible? Also write them

Q5) Let  $A = \{1, 2\}$ . How many onto functions from  $A$  to  $A$  are possible? Also write them.

Q6) Let  $A = \{-1, 0, 1\}$  and  $f = \{(x, x^2) : x \in A\}$ . Show that  $f: A \rightarrow A$  is neither one-one nor onto

Q7) Show that  $f: \mathbb{N} \rightarrow \mathbb{N}$  defined by  $f(x) = \begin{cases} n + 1/2, & \text{if } n \text{ is odd} \\ n/2, & \text{if } n \text{ is even} \end{cases}$

Is many-one onto function.

Q8) Show that the function  $f: \mathbb{R} \rightarrow \mathbb{R}$  defined by  $f(x) = 3x^3 + 5$  for  $x \in \mathbb{R}$  is a bijection.

Q9) Show that the relation  $R$  on the set  $\mathbb{R}$  of all real numbers, defined as  $R = \{(a, b) : a \leq b^2\}$  is neither reflexive nor symmetric nor transitive

Q10) Find  $\text{gof}$  and  $\text{fog}$  when  $f: \mathbb{R} \rightarrow \mathbb{R}$  and  $g: \mathbb{R} \rightarrow \mathbb{R}$  are defined by  $f(x) = x^2 + 2$  and  $g(x) = \frac{x}{x^2 + 1}$

Q11) Find the principle value of

- a)  $\sin^{-1} \frac{1}{\sqrt{2}}$
- b)  $\cos^{-1} \frac{-1}{\sqrt{2}}$
- c)  $\tan^{-1} \frac{-1}{\sqrt{3}}$
- d)  $\csc^{-1} -2$

Q12) Express the matrix  $\begin{bmatrix} 1 & 3 & 5 \\ -6 & 8 & 3 \\ -4 & 6 & 5 \end{bmatrix}$  as a sum of symmetric and skew symmetric matrix

Q13) If  $A = \begin{bmatrix} 1 & 3 & 5 \\ -6 & 8 & 3 \\ -4 & 6 & 5 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & 5 & 3 \\ 3 & 4 & 3 \\ 7 & 6 & 8 \end{bmatrix}$  Find  $(AB)'$  and verify that  $(AB)' = B'A'$

Q14) if  $A = \begin{bmatrix} 2 & 3 & -5 \\ -6 & -8 & -3 \\ -4 & 8 & 9 \end{bmatrix}$  and  $B = \begin{bmatrix} 5 & 6 & -7 \\ -9 & 0 & -6 \\ -1 & 0 & 9 \end{bmatrix}$  write the sum of

diagonal elements of  $A$  and non diagonal elements of  $B$

Q15) Construct a  $2 \times 2$  matrix which is symmetric and skew symmetric matrix.

Q16) Construct a matrix, Then find  $A+A'$  and  $A-A'$  and check which of them is symmetric and skew Symmetric, Write the conclusion.

Q17) If  $A = \begin{bmatrix} 1 & 5 & 3 \\ 3 & 4 & 3 \\ 7 & 6 & 8 \end{bmatrix}$  find  $A^2 + 3A + 5I$  Where  $I$  is Identity matrix of order 3.

Q18) If  $A = \begin{bmatrix} 0 & 0 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{bmatrix}$  Check  $A^3 = A$ . TRUE OR FALSE.

Q19) If  $A = \begin{bmatrix} 1 & 2 & 0 \\ -2 & -1 & -2 \\ 0 & -1 & 1 \end{bmatrix}$  Find  $A^{-1}$  using elementary transformation.

Q20) Write the number of all possible matrices of order  $2 \times 3$  if each element is filled by 0 or 1.

Q21) Define square matrix, scalar matrix, diagonal matrix, transpose of a matrix.

Q22) If  $A$  and  $B$  are skew symmetric matrices of same order then check  $AB+BA$  is skew symmetric or not

Q23) The cost of 4 Kg onion, 3kg wheat and 2kg rice is Rs 60. The cost of 2 kg onion, 4kg wheat and 6kg rice is Rs 90. The cost of 6kg onion, 2kg wheat and 3kg rice is Rs 70. Find the cost of each per kg by matrix method

Q24) Two schools P and Q want to award their selected students on the values of discipline, politeness and punctuality. The school P wants to award Rs  $x$  each, Rs  $y$  each and Rs  $z$  each for the three respective values to its 3, 2 and 1 students with a total award money of Rs 1000. School Q wants to spend Rs 1500 to award its 4, 1 and 3 students on the respective values. If the total amount of award for one prize on each value is Rs 600, using matrices, find the award money for each value.

Q25) The sum of three numbers is 6. If we multiply third number by 3 and add second number to it, we get 11. By adding first and third numbers, we get double of the second number. Represent algebraically and find the numbers using matrix method

### Competency based questions

In two different societies, there are some school going students - including girls as well as boys. Satish forms two sets with these students, as his college project. Let  $A = a_1, a_2, a_3, a_4, a_5 = \{1, 2, 3, 4, 5\}$  and  $B = b_1, b_2, b_3, b_4 = \{1, 2, 3, 4\}$  where  $a_i$ 's and  $b_i$ 's are the school going students of first and second society respectively. Satish decides to explore these sets for various types of relations and functions.

1. Satish wishes to know the number of reflexive relations defined on set A. How many such relations are possible?

- A 0
- B  $2^5$
- C  $2^{10}$
- D  $2^{20}$

2 Let  $R : A \rightarrow A$ ,  $R(x, y) : x$  and  $y$  are students of same sex. Then relation R is

- (a) reflexive only
- (b) reflexive and symmetric but not transitive
- (c) reflexive and transitive but not symmetric
- (d) an equivalence relation

3 Satish and his friend Rajat are interested to know the number of symmetric relations defined on both the sets A and B, separately. Satish decides to find the symmetric relation on set A, while Rajat decides to find the symmetric relation on set B. What is difference between their results?

- (a) 1024
- (b)  $2^{10}$  (15)
- (c)  $2^{10}$  (31)
- (d)  $2^{10}$  (63)

4 To help Satish in his project, Rajat decides to form onto function from set A to B. How many such functions are possible?

- (a) 342
- (b) 243
- (c) 729
- (d) 102

Manjit wants to donate a rectangular plot of land for a school in his village. When he was asked to give dimensions of the plot, he told that if its length is decreased by 50 m and breadth is increased by 50 m, then its area will remain same, but if length is decreased by 10 m and breadth is decreased by 20 m, then its area will decrease by  $5300 m^2$

1. The equations in terms of x and y are

- (a)  $x-y = 50$ ,  $2x-y = 550$
- (b)  $x-y = 50$ ,  $2x-y = 550$
- (c)  $x-y = 50$ ,  $2x-y = 550$
- (d)  $x-y = 50$ ,  $2x-y = 550$

2. The value of x (length of rectangular field), is

- (a) 150 m
- (b) 400 m
- (c) 200 m
- (d) 320 m

3. The value of y (breadth of rectangular field), is

- (a) 150 m
- (b) 200 m
- (c) 430 m
- (d) 350 m

4. How much is the area of rectangular field?

- (a) 60000 Sq. m
- (b) 30000 Sq. m
- (c) 30000 m
- (d) 3000 m

#### Project Work

- Do five practicals guided by the teacher in class

Art integrated work

- Draw the graph of  
 $\sin x, \sin^{-1} x, \cos x, \cos^{-1} x, \tan x, \tan^{-1} x, \sec^{-1} x, \sec x, \operatorname{cosec} x, \csc^{-1} x, \cot x, \cot^{-1} x$   
 $\operatorname{Log} x, |x|$ , greatest integer function by using colored sheets and colored sketch-pen
- Write their Domain and range of above functions.

## Holidays Homework

### Sub- music

1. Project on "The history of Indian music" (make ppt)

OR

Musical Instrument "Tanpura". Its structure, parts, Tuning etc.

2. Make video on raag Bhairav and its history.

3. make charts on-----

Ustad Abdul Karim Khan (biography with picture)

Pandit Krishna Rao Shankar (biography with picture)

4. As a music student, what steps would you like to take to aware the society about the importance of Indian classical music. write your views.