



# Maheshwari Public School

A Prestigious Co-Educational English Medium School  
Governed by The Education Committee of The Maheshwari Samaj Society, Jaipur  
Affiliated to CBSE, Delhi , Affiliation No. 1730891



**Holiday Homework**

**Class XII**

**Commerce Stream**

**Session(2026-27)**



# Subject- English Core



# English

## Assessment in Listening and Speaking Skills (ALS)

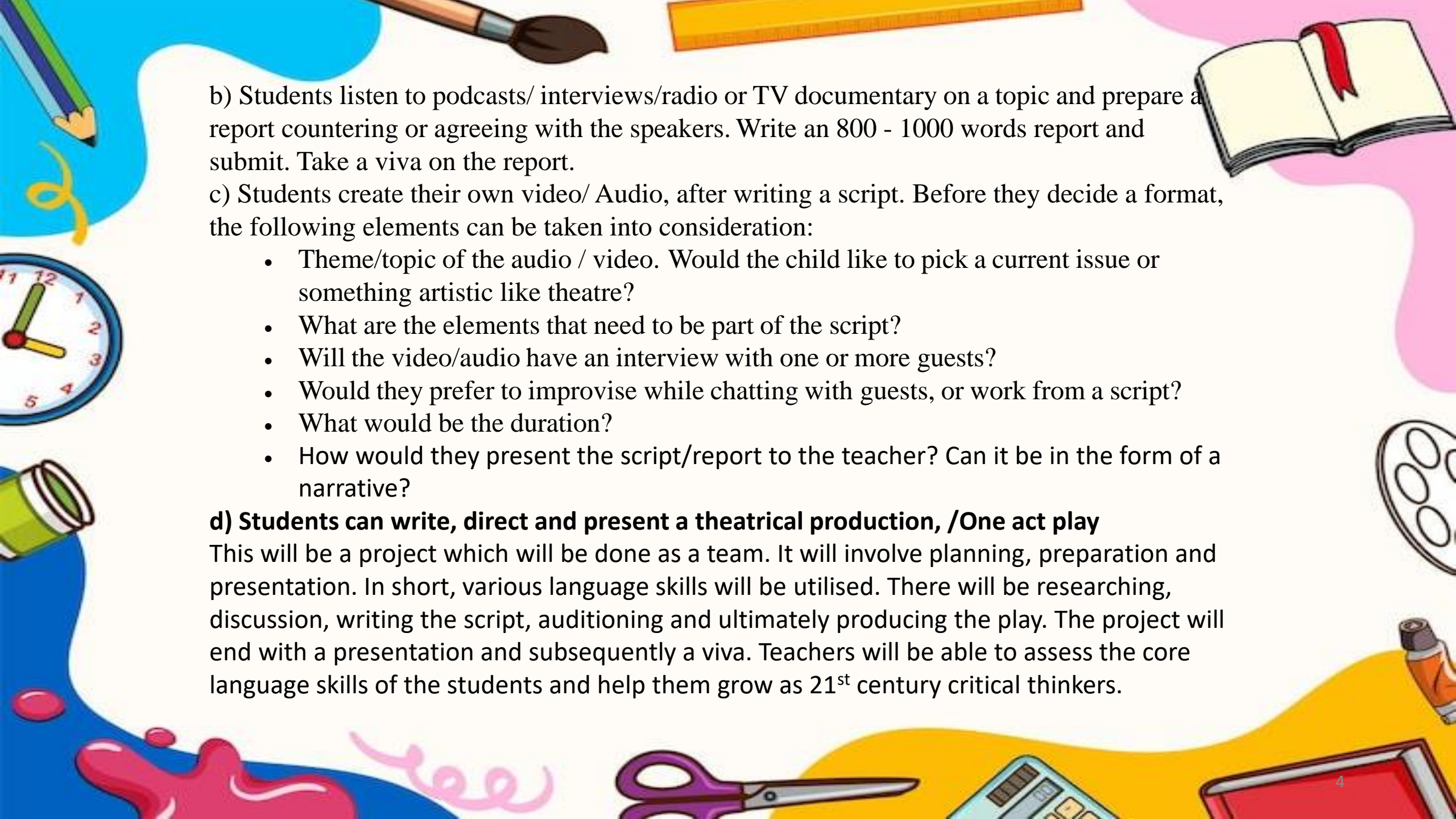
### i. Suggestions for Project Work:

- The Project can be inter-disciplinary in theme. The ideas/issues highlighted in the chapters/ poems/ drama given the prescribed books can also be developed in the form of a project. Students can also take up any relevant and age-appropriate theme.
- Such topics may be taken up that provide students with opportunities for listening and speaking. Some suggestions are as follows:

#### a) Interview-Based research:

##### Example:

- Students can choose a topic on which to do their research/ interview, e.g. a student can choose the topic: “Evolving food tastes in my neighbourhood” or “Corona pandemic and the fallout on families.” Read the available literature.
- The student then conducts interviews with a few neighbours on the topic. For an interview, with the help of the teacher, student will frame questions based on the preliminary research/background.
- The student will then write an essay/ write up / report etc. up to 1000 words on his/her research and submit it. He/ She will then take a viva on the research project. The project can be done in individually or in pairs/ groups



b) Students listen to podcasts/ interviews/radio or TV documentary on a topic and prepare a report countering or agreeing with the speakers. Write an 800 - 1000 words report and submit. Take a viva on the report.

c) Students create their own video/ Audio, after writing a script. Before they decide a format, the following elements can be taken into consideration:

- Theme/topic of the audio / video. Would the child like to pick a current issue or something artistic like theatre?
- What are the elements that need to be part of the script?
- Will the video/audio have an interview with one or more guests?
- Would they prefer to improvise while chatting with guests, or work from a script?
- What would be the duration?
- How would they present the script/report to the teacher? Can it be in the form of a narrative?

**d) Students can write, direct and present a theatrical production, /One act play**

This will be a project which will be done as a team. It will involve planning, preparation and presentation. In short, various language skills will be utilised. There will be researching, discussion, writing the script, auditioning and ultimately producing the play. The project will end with a presentation and subsequently a viva. Teachers will be able to assess the core language skills of the students and help them grow as 21<sup>st</sup> century critical thinkers.

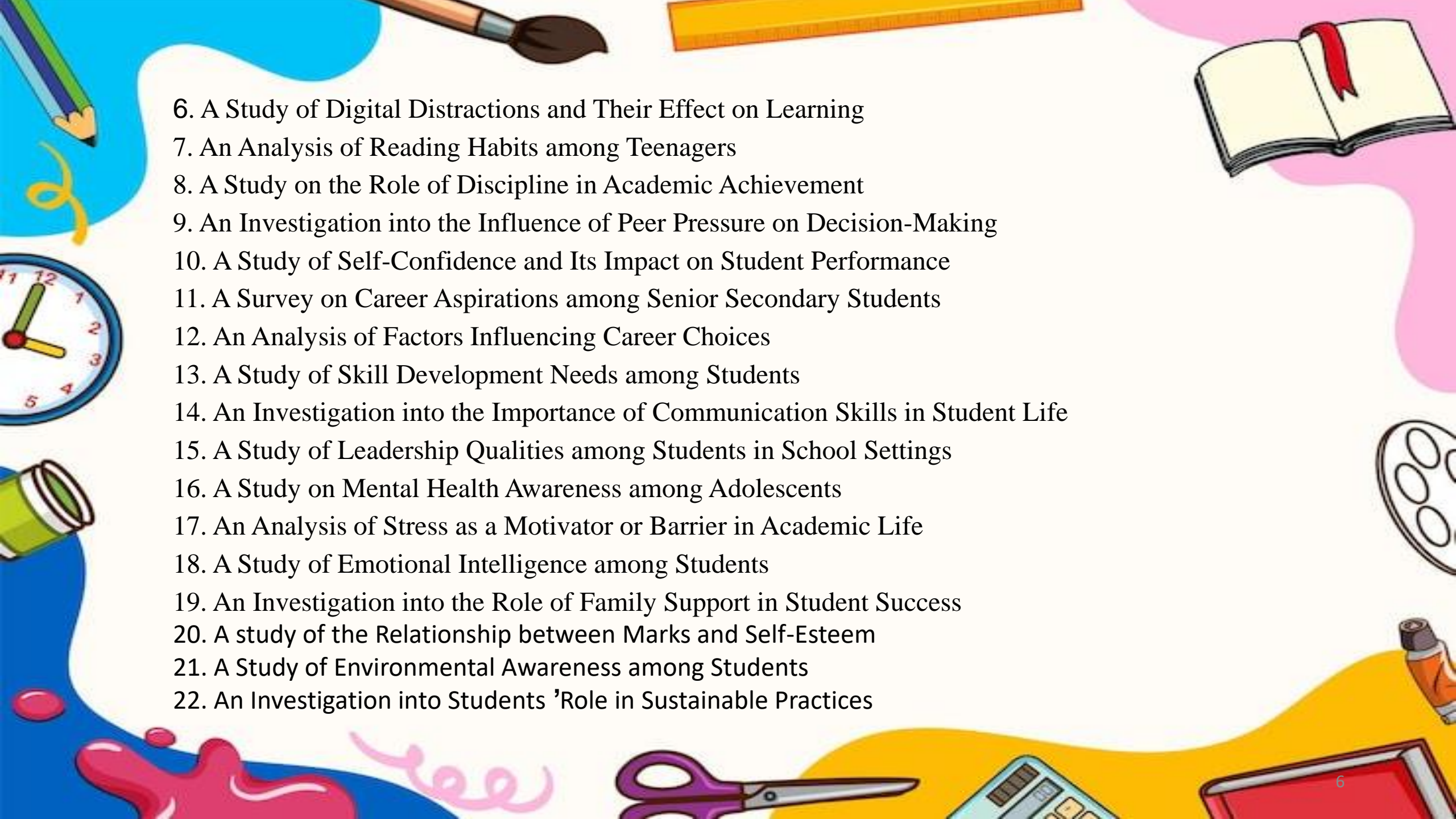


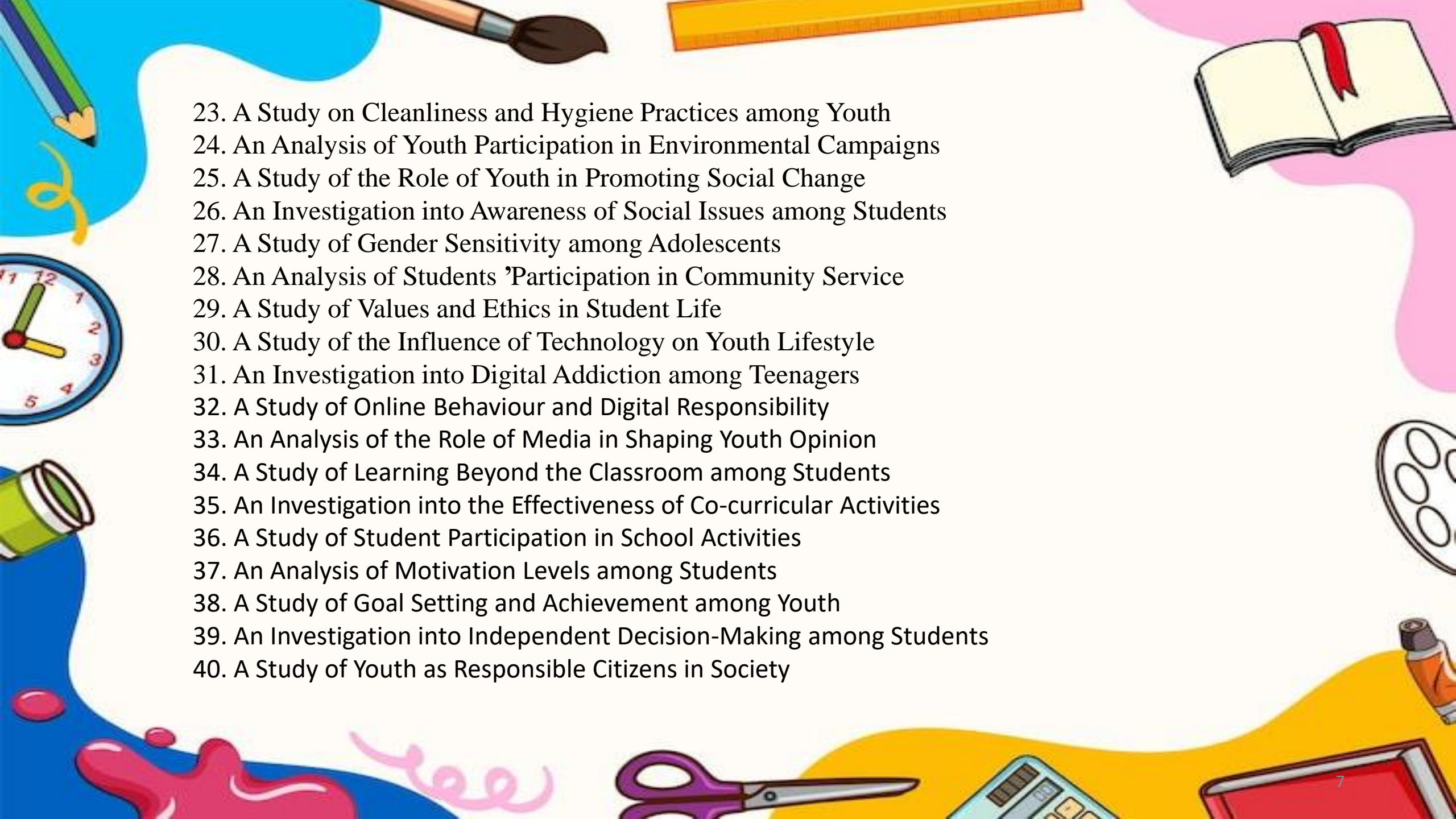
The **Project-Portfolios** is a compilation of the work that the students produce during the process of working on their ALS Project. The Project-Portfolio may include the following:

- Cover page, with title of project, school details/details of students.
- Statement of purpose/objectives/goals
- Certificate of completion under the guidance of the teacher.
- Action plan for the completion of assigned tasks.
- Materials such as scripts for the theatre/role play, questionnaires for interview, written assignments, essays, survey-reports and other material evidence of learning progress and academic accomplishment.
- The 800-1000 words essay/Script/Report.
- Student/group reflections.
- If possible, Photographs that capture the positive learning experiences of the student(s).
- List of resources/bibliography.

**Topic Allotment (Roll Number-wise)**

1. A Study of the Impact of Social Media on Student's Academic Performance
2. An Analysis of Time Management Practices among Senior Secondary Students
3. A Comparative Study of Online and Offline Learning Outcomes
4. A Study on Exam Stress and Coping Strategies among Students
5. An Investigation into Sleep Patterns and Academic Efficiency

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6. A Study of Digital Distractions and Their Effect on Learning
  7. An Analysis of Reading Habits among Teenagers
  8. A Study on the Role of Discipline in Academic Achievement
  9. An Investigation into the Influence of Peer Pressure on Decision-Making
  10. A Study of Self-Confidence and Its Impact on Student Performance
  11. A Survey on Career Aspirations among Senior Secondary Students
  12. An Analysis of Factors Influencing Career Choices
  13. A Study of Skill Development Needs among Students
  14. An Investigation into the Importance of Communication Skills in Student Life
  15. A Study of Leadership Qualities among Students in School Settings
  16. A Study on Mental Health Awareness among Adolescents
  17. An Analysis of Stress as a Motivator or Barrier in Academic Life
  18. A Study of Emotional Intelligence among Students
  19. An Investigation into the Role of Family Support in Student Success
  20. A study of the Relationship between Marks and Self-Esteem
  21. A Study of Environmental Awareness among Students
  22. An Investigation into Students 'Role in Sustainable Practices

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23. A Study on Cleanliness and Hygiene Practices among Youth
  24. An Analysis of Youth Participation in Environmental Campaigns
  25. A Study of the Role of Youth in Promoting Social Change
  26. An Investigation into Awareness of Social Issues among Students
  27. A Study of Gender Sensitivity among Adolescents
  28. An Analysis of Students 'Participation in Community Service
  29. A Study of Values and Ethics in Student Life
  30. A Study of the Influence of Technology on Youth Lifestyle
  31. An Investigation into Digital Addiction among Teenagers
  32. A Study of Online Behaviour and Digital Responsibility
  33. An Analysis of the Role of Media in Shaping Youth Opinion
  34. A Study of Learning Beyond the Classroom among Students
  35. An Investigation into the Effectiveness of Co-curricular Activities
  36. A Study of Student Participation in School Activities
  37. An Analysis of Motivation Levels among Students
  38. A Study of Goal Setting and Achievement among Youth
  39. An Investigation into Independent Decision-Making among Students
  40. A Study of Youth as Responsible Citizens in Society



## Experiential Learning Project (Roll Number-wise)

**Roll No. 1 – 8** • Author Study – Critical Profile

Choose a renowned author such as William Shakespeare, Rabindranath Tagore, or George Orwell

Prepare a research-based analytical chart including:

- Literary movement associated with the author
- Writing style and themes • Impact on society and literature
- Critical reception of their works • Personal evaluation of their contribution

**Roll No. 9-16** • Literary Scene Reconstruction (3D Model + Oral Explanation)

Design a 3D model representing a symbolic or climactic scene from any chapter/poem.

Extend beyond basics:

- Highlight symbolism and themes visually • Add dialogue tags or narration snippets
- Attach a written explanation (200 words)



**Roll No. 17- 24** • Morphology Project – Word Formation Lab

Create an interactive model/chart explaining:

- Common Errors, Tenses, Heteronyms, Homophones Homonyms
- Word transformation with meaning shifts
- Real-life application (advertisements, posters, headlines, etc.)

Challenge Element:

Analyse how word formation affects tone and meaning in texts

**Roll No. 25-32** • Grammar in Context Model

Select ONE topic:

- Tenses in narrative writing • Common errors and corrections • Voice transformation in journalism
- Reported speech in conversations

Your model must show:

- Rules + examples • Real-life usage (news, speeches, dialogues)



**Roll No. 33 -40** • Philosophy & Language Project “ –Wisdom Through Words”

Select 10 powerful quotations/proverbs and present:

- Literal meaning vs deeper interpretation • Contextual relevance in modern life
- Short real-life scenario for each • Visual symbolism/artistic representation Roll no 40 + Thinking beyond the box
- Create a podcast / video (3–5 mins) explaining a recent contemporary national issue.
- Prepare a reading journal during holidays • Attempt a creative piece (poem, short story, blog)



# Subject- Accountancy



# Accountancy

## CBSE Class 12 Accountancy Project Guidelines (Session 2026-27)

For the 2026-27 academic session, CBSE has updated the assessment structure for Class 12 Accountancy (055) to align with the National Curriculum Framework (NCF-2023).

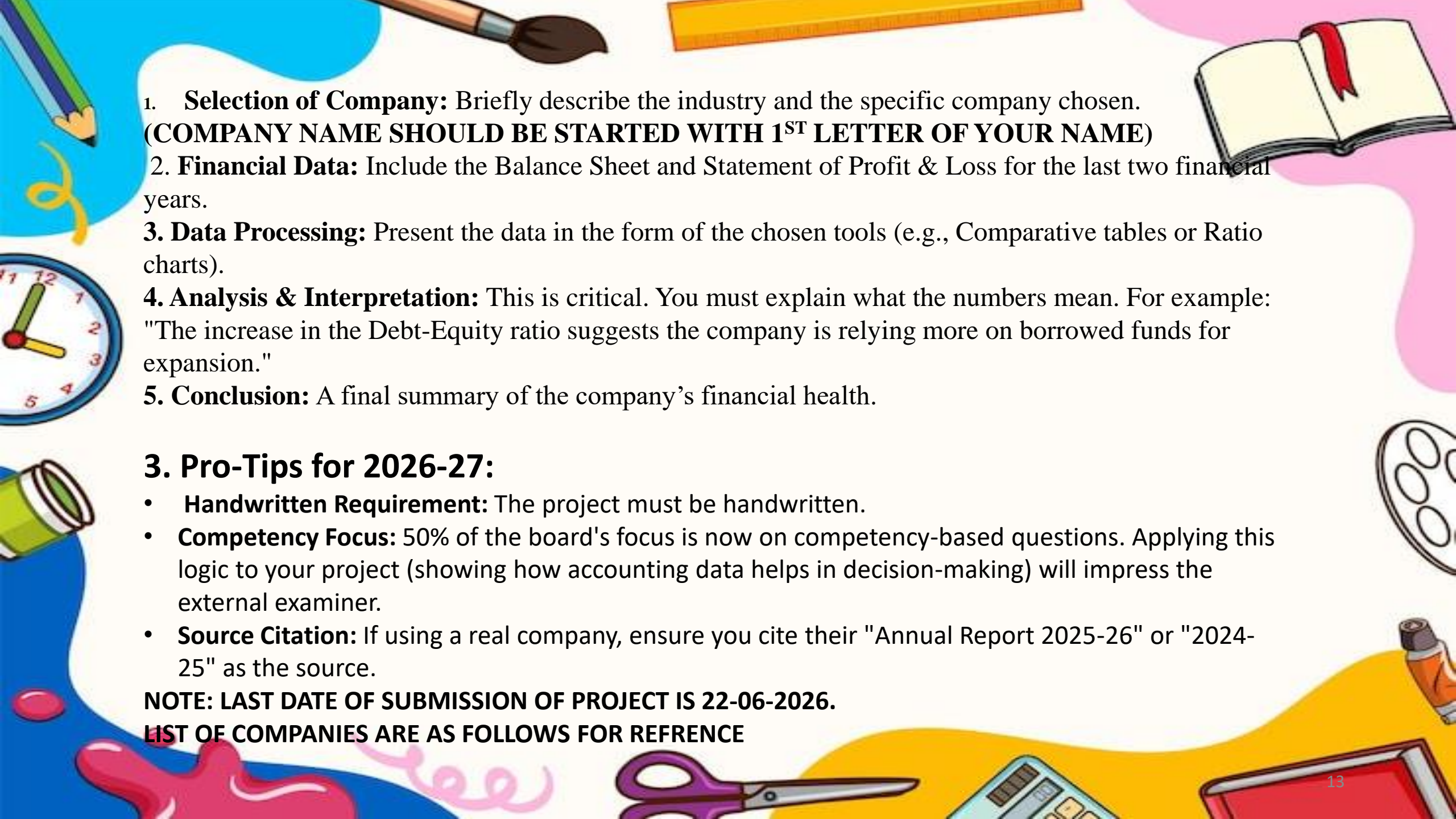
### 1. Project File Requirements

You must prepare one specific project that focuses on Financial Statement Analysis. It should involve a real-life company (or a very realistic hypothetical one) and must cover at least two of the following tools:

- **Comparative and Common Size Statements:** Showing trends over two consecutive years.
- **Accounting Ratios:** Calculation and interpretation of Liquidity, Solvency, Activity, and Profitability ratios.
- **Segment Reports:** Analysis of different business verticals of a company (e.g., ITC's FMCG vs. Hotels).
- **Cash Flow Statement:** Preparation and analysis as per AS-3 (Revised).

### 2. Mandatory Project Flow

To meet the "Competency-Based" standards of the 2026-27 curriculum, your project should follow this structure:

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1. **Selection of Company:** Briefly describe the industry and the specific company chosen. **(COMPANY NAME SHOULD BE STARTED WITH 1<sup>ST</sup> LETTER OF YOUR NAME)**
  2. **Financial Data:** Include the Balance Sheet and Statement of Profit & Loss for the last two financial years.
  3. **Data Processing:** Present the data in the form of the chosen tools (e.g., Comparative tables or Ratio charts).
  4. **Analysis & Interpretation:** This is critical. You must explain what the numbers mean. For example: "The increase in the Debt-Equity ratio suggests the company is relying more on borrowed funds for expansion."
  5. **Conclusion:** A final summary of the company's financial health.

### 3. Pro-Tips for 2026-27:

- **Handwritten Requirement:** The project must be handwritten.
- **Competency Focus:** 50% of the board's focus is now on competency-based questions. Applying this logic to your project (showing how accounting data helps in decision-making) will impress the external examiner.
- **Source Citation:** If using a real company, ensure you cite their "Annual Report 2025-26" or "2024-25" as the source.

**NOTE: LAST DATE OF SUBMISSION OF PROJECT IS 22-06-2026.**

**LIST OF COMPANIES ARE AS FOLLOWS FOR REFERENCE**

Index	Company Name	Industry / Sector
A	Adani Enterprises / Asian Paints	Commodities / Consumer Goods
B	Bajaj Finance / Bharti Airtel	Financial Services / Telecom
C	Coal India / Cipla	Energy / Pharmaceuticals
D	Divi's Laboratories / DLF	Pharma / Real Estate
E	Eicher Motors / Exide Industries	Automobile / Auto Ancillaries
F	Federal Bank / Fortis Healthcare	Banking / Healthcare
G	Grasim Industries / GAIL	Cement / Utilities
H	HDFC Bank / Hindustan Unilever	Banking / FMCG
I	Infosys / ITC Limited	IT Services / Diversified
J	JSW Steel / JSW Energy	Metals / Power
K	Kotak Mahindra Bank / KPIT Tech	Banking / IT
L	Larsen & Toubro (L&T)	Construction & Engineering
M	Mahindra & Mahindra / Maruti Suzuki	Automobile
N	NTPC / Nestle India	Power / Food & Beverage
O	ONGC / Oil India	Oil & Gas
P	Power Grid / Polycab India	Power / Industrial Goods
Q	Qess Corp	Services
R	<b>Reliance Industries</b>	<b>Energy / Retail / Telecom</b>



Index	Company Name	Industry / Sector
S	State Bank of India (SBI) / Sun Pharma	Banking / Pharmaceuticals
T	TCS / Tata Motors	IT Services / Automobile
U	UltraTech Cement / UPL	Cement / Agrochemicals
V	Vedanta / Varun Beverages	Mining / Beverages
W	Wipro	IT Services
X	Xchanging Solutions	IT Services
Y	Yes Bank	Banking
Z	Zomato / Zee Entertainment	Internet / Media

This list is for educational and reference purposes. It features a selection of prominent companies listed on the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE)



**Subject- Business Studies**



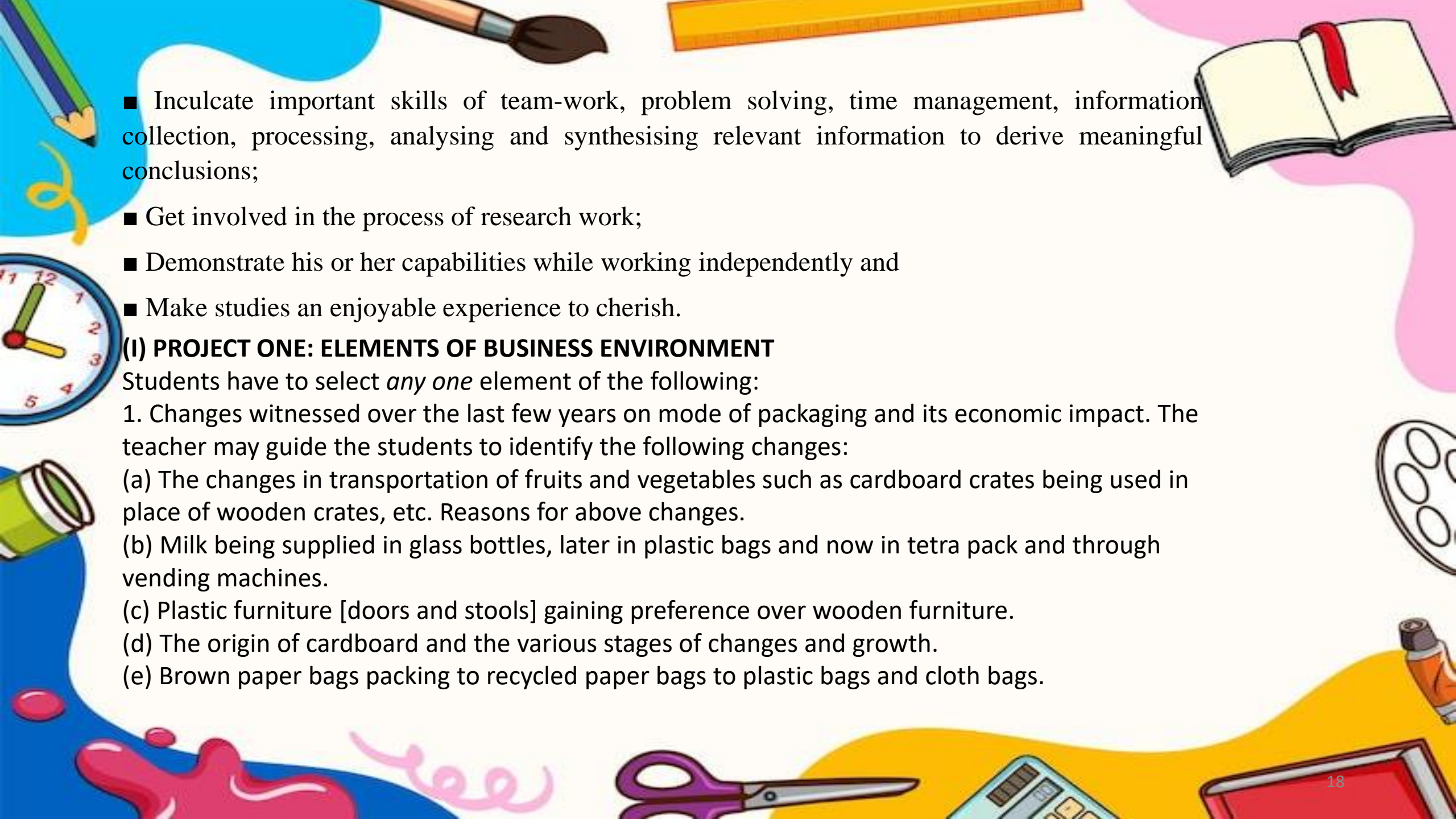
## Business Studies

The course in Business Studies is introduced at Senior School level to provide students with a sound understanding of the principles and practices bearing in business (trade and industry) as well as their relationship with the society. The projects have been designed to allow students to appreciate that business is an integral component of society and help them develop an understanding of the social and ethical issues concerning them. By means of Project Work the students are exposed to life beyond textbooks giving them opportunities to refer materials, gather information, analyse it further to obtain relevant information and decide what matter to keep.

### OBJECTIVES

After doing the Project Work in Business Studies, the students will be able to do the following:

- Develop a practical approach by using modern technologies in the field of business and management;
- Get an opportunity for exposure to the operational environment in the field of business management and related services;



- Inculcate important skills of team-work, problem solving, time management, information collection, processing, analysing and synthesising relevant information to derive meaningful conclusions;

- Get involved in the process of research work;

- Demonstrate his or her capabilities while working independently and

- Make studies an enjoyable experience to cherish.

### **(I) PROJECT ONE: ELEMENTS OF BUSINESS ENVIRONMENT**

Students have to select *any one* element of the following:

1. Changes witnessed over the last few years on mode of packaging and its economic impact. The teacher may guide the students to identify the following changes:

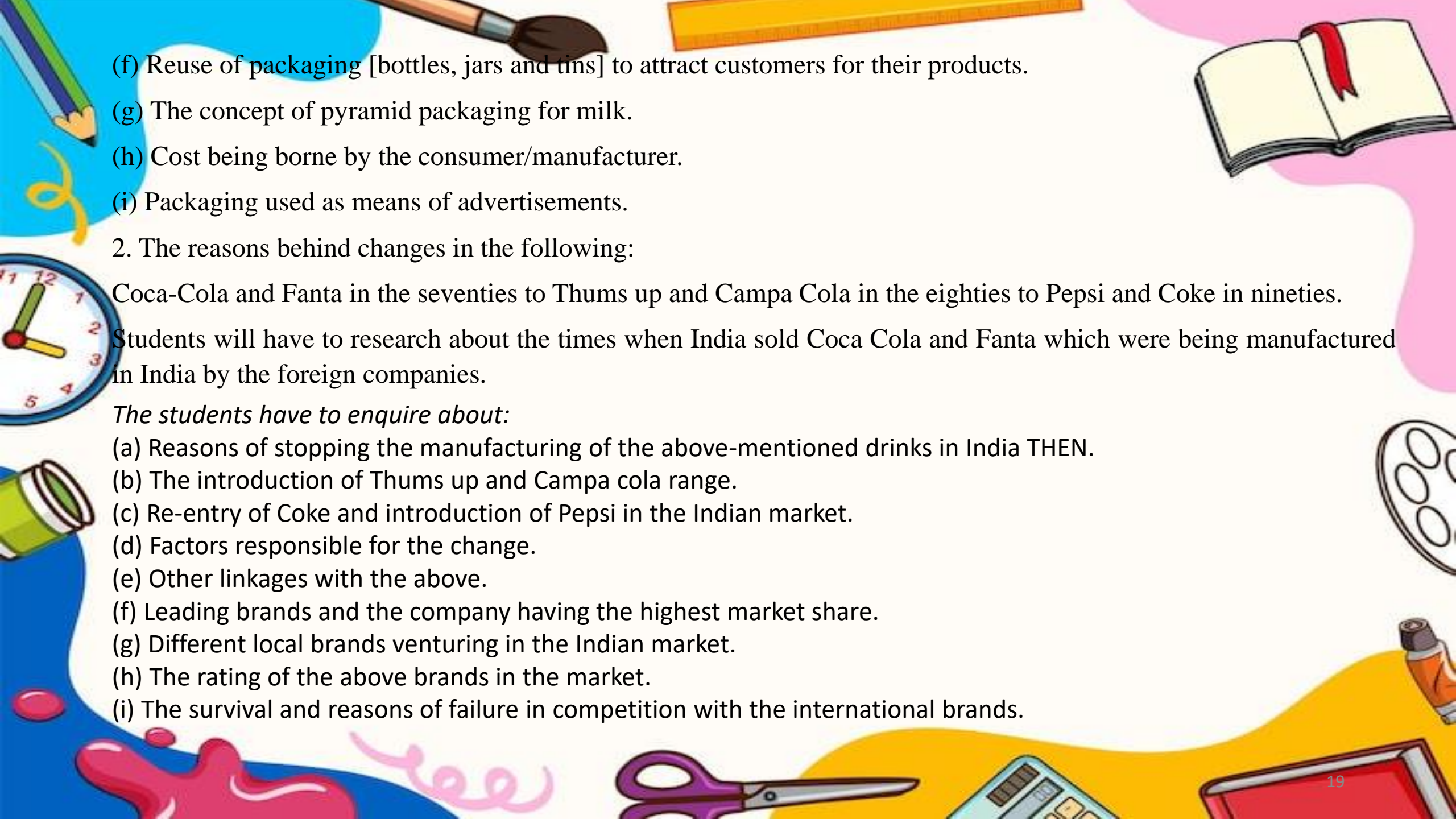
(a) The changes in transportation of fruits and vegetables such as cardboard crates being used in place of wooden crates, etc. Reasons for above changes.

(b) Milk being supplied in glass bottles, later in plastic bags and now in tetra pack and through vending machines.

(c) Plastic furniture [doors and stools] gaining preference over wooden furniture.

(d) The origin of cardboard and the various stages of changes and growth.

(e) Brown paper bags packing to recycled paper bags to plastic bags and cloth bags.

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- (f) Reuse of packaging [bottles, jars and tins] to attract customers for their products.
  - (g) The concept of pyramid packaging for milk.
  - (h) Cost being borne by the consumer/manufacturer.
  - (i) Packaging used as means of advertisements.

2. The reasons behind changes in the following:

Coca-Cola and Fanta in the seventies to Thums up and Campa Cola in the eighties to Pepsi and Coke in nineties.

Students will have to research about the times when India sold Coca Cola and Fanta which were being manufactured in India by the foreign companies.

*The students have to enquire about:*

- (a) Reasons of stopping the manufacturing of the above-mentioned drinks in India THEN.
- (b) The introduction of Thums up and Campa cola range.
- (c) Re-entry of Coke and introduction of Pepsi in the Indian market.
- (d) Factors responsible for the change.
- (e) Other linkages with the above.
- (f) Leading brands and the company having the highest market share.
- (g) Different local brands venturing in the Indian market.
- (h) The rating of the above brands in the market.
- (i) The survival and reasons of failure in competition with the international brands.



(j) Other observations made by the students.

3. 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.

4. The changes in the pattern of import and export of different Products.

5. The trend in the changing interest rates and their effect on savings.

6. A study on child labour laws, its implementation and consequences.

7. The state of 'anti plastic campaign,' the law, its effects and implementation.

8. The laws of mining /setting up of industries, rules and regulations, licences required for running that business.

9. Social factors affecting acceptance and rejection of an identified product. (Dish washer, Atta maker, etc.)

10. What has the effect of change in environment on the types of goods and services? The students can take examples like:

(a) Washing machines, micro waves, mixers and grinder.

(b) Need for creche, day care Centre for young and old.

(c) Ready to eat food, eating food outside, and tiffin centres.

11. Change in the man-machine ratio with technological advances resulting in change of cost structure.

12. Effect of changes in technological environment on the behaviour of employee.



## (II) PROJECT TWO: PRINCIPLES OF MANAGEMENT

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

1. A departmental store.
2. An industrial unit.
3. A fast-food outlet.
4. Any other organization approved by the teacher.

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

Fayol's principles:

1. Division of work.
2. Unity of command.
3. Unity of direction.
4. Scalar chain
5. Esprit de corps
6. Fair remuneration to all.
7. Order.
8. Equity.
9. Discipline
10. Subordination of individual interest to general interest.
11. Initiative.
12. Centralization and decentralization.
13. Stability of tenure.



Or

They may enquire into the application of scientific management techniques by F.W. Taylor in the unit visited.

Scientific techniques of management:

1. Functional foremanship.
2. Standardisation and simplification of work.
3. Method study.
4. Motion Study.
5. Time Study.
6. Fatigue Study.
7. Differential piece rate plan.

The observations could be on the basis of:

- The different stages of division of work resulting to specialisation.
- Following instructions and accountability of subordinates to higher authorities.
- Visibility of order and equity in the unit.
- Balance of authority and responsibility.
- Communication levels and pattern in the organisation.



- Methods and techniques followed by the organisation for unity of direction and coordination amongst all.

- Methods of wage payments followed. The arrangements of fatigue study.

- Derivation of time study.

- Derivation and advantages of method study.

- Organisational chart of functional foremanship.

- Any other identified in the organisation

(vi) It is advised that students should pick up different areas of visit.

(vii) The students may be encouraged to develop worksheets.

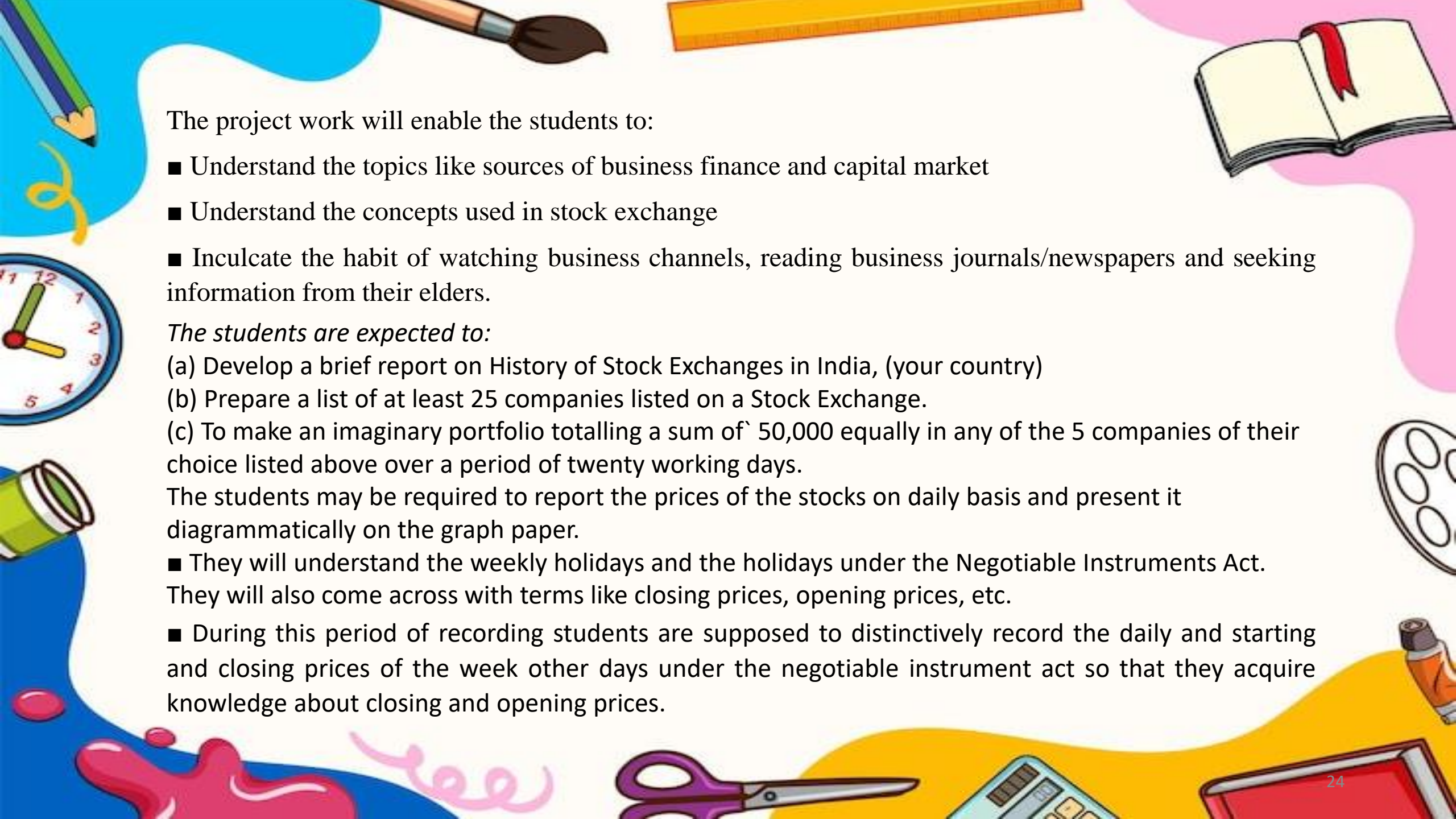
Examples; worksheets, questionnaire, interviews and organisational chart, etc.

### **III. PROJECT THREE: STOCK EXCHANGE**

The purpose of this project is to teach school students the values of investing and utilising the stock market. This project also teaches important lessons about the economy, mathematics and financial responsibility.

The basis of this project is to learn about the stock market while investing a specified amount of fake money in certain stocks. Students then study the results and buy and sell as they see fit.

This project will also guide the students and provide them with the supplies necessary to successfully monitor stock market trends and will teach students how to calculate profit and loss on stock.



The project work will enable the students to:

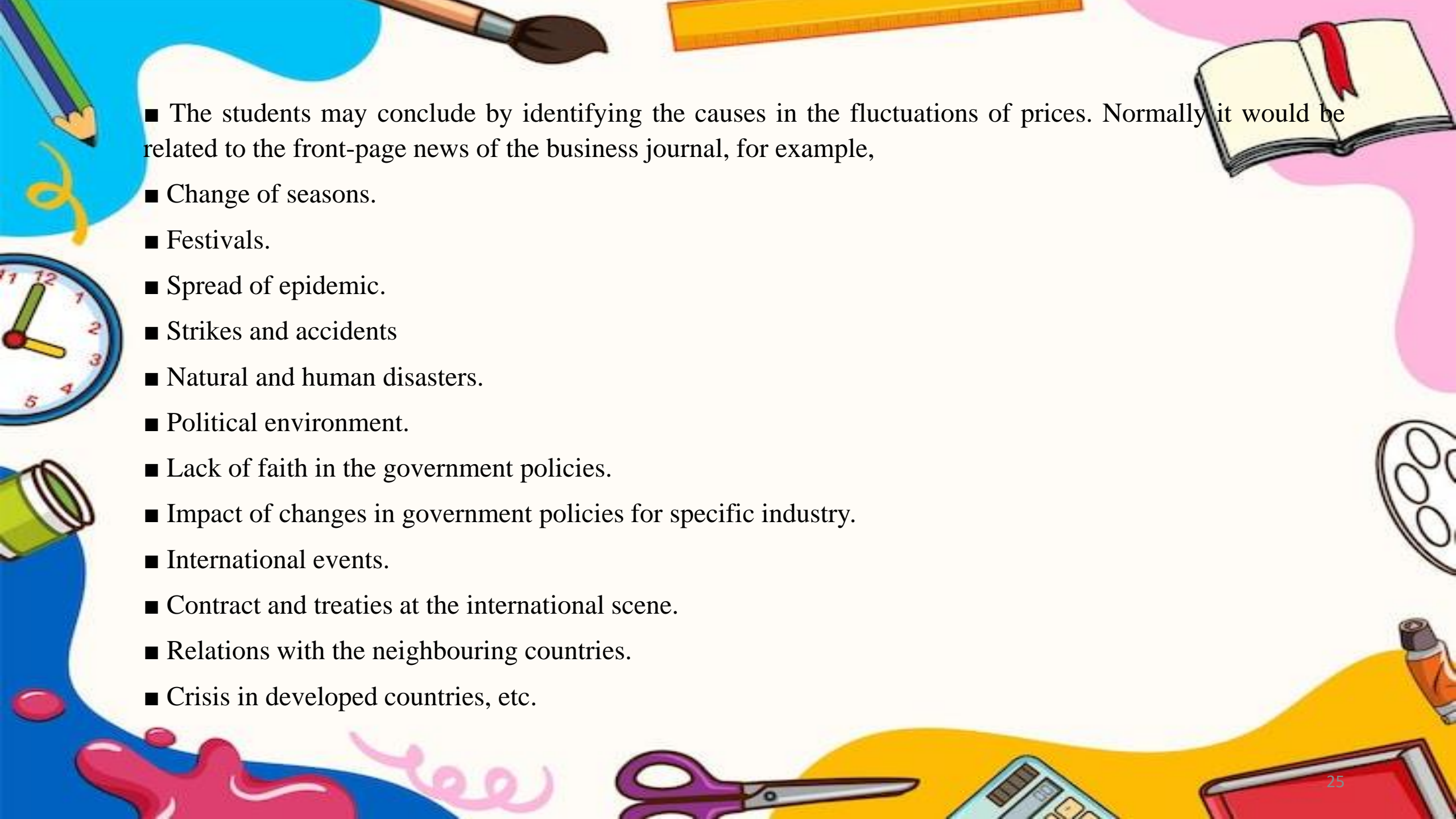
- Understand the topics like sources of business finance and capital market
- Understand the concepts used in stock exchange
- Inculcate the habit of watching business channels, reading business journals/newspapers and seeking information from their elders.

*The students are expected to:*

- (a) Develop a brief report on History of Stock Exchanges in India, (your country)
- (b) Prepare a list of at least 25 companies listed on a Stock Exchange.
- (c) To make an imaginary portfolio totalling a sum of ` 50,000 equally in any of the 5 companies of their choice listed above over a period of twenty working days.

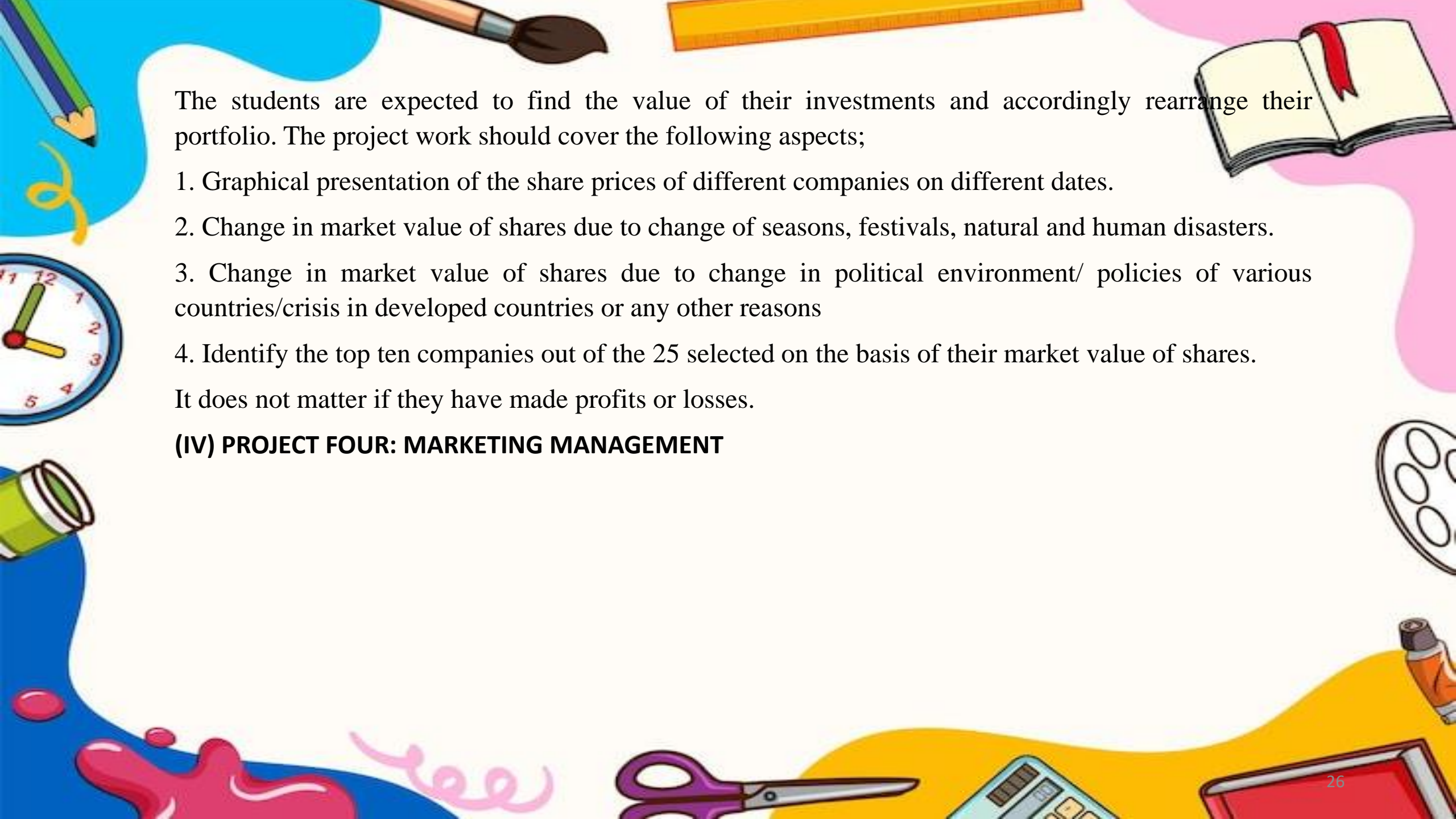
The students may be required to report the prices of the stocks on daily basis and present it diagrammatically on the graph paper.

- They will understand the weekly holidays and the holidays under the Negotiable Instruments Act. They will also come across with terms like closing prices, opening prices, etc.
- During this period of recording students are supposed to distinctively record the daily and starting and closing prices of the week other days under the negotiable instrument act so that they acquire knowledge about closing and opening prices.



■ The students may conclude by identifying the causes in the fluctuations of prices. Normally it would be related to the front-page news of the business journal, for example,

- Change of seasons.
- Festivals.
- Spread of epidemic.
- Strikes and accidents
- Natural and human disasters.
- Political environment.
- Lack of faith in the government policies.
- Impact of changes in government policies for specific industry.
- International events.
- Contract and treaties at the international scene.
- Relations with the neighbouring countries.
- Crisis in developed countries, etc.



The students are expected to find the value of their investments and accordingly rearrange their portfolio. The project work should cover the following aspects;

1. Graphical presentation of the share prices of different companies on different dates.
2. Change in market value of shares due to change of seasons, festivals, natural and human disasters.
3. Change in market value of shares due to change in political environment/ policies of various countries/crisis in developed countries or any other reasons
4. Identify the top ten companies out of the 25 selected on the basis of their market value of shares.

It does not matter if they have made profits or losses.

#### **(IV) PROJECT FOUR: MARKETING MANAGEMENT**

1. Adhesives	6. Bike	11. Butter
2. Air conditioners	7. Blanket	12. Camera
3. Bathing Soap	8. Bread	13. Car
4. Bathing Soap	9. Bread	14. Cheese spreads
5. Bathroom cleaner	10. Breakfast cereal	15. Chocolate
16. Coffee	37. Ladies bag	58. Salt
17. Cosmetology product	38. Ladies footwear	59. Sarees
18. Crayons	39. Learning Toys	60. Sauces/Ketchup
19. Crockery	40. Lipstick	61. Shampoo
20. Cutlery	41. Microwave oven	62. Shaving cream
21. Cycle	42. Mixers	63. Shoe polish
22. DTH	43. Mobile	64. Shoes
23. Eraser	44. Moisturizer	65. Squashes
24. e-wash	45. Music player	66. Suitcase/airbag
25. Fairness cream	46. Nail polish	67. Sunglasses




26. Fans	47. Newspaper	68. Tea
27. Fruit candy	48. Noodles	69. Tiffin Wallah
28. Furniture	49. Pen	70. Toothpaste
29. Hair Dye	50. Pen drive	71. Wallet
30. Hair Oil	51. Pencil	72. Washing detergent
31. Infant dress	52. Pickles	73. Washing machine
32. Inverter	53. Razor	74. Washing powder
33. Jams	54. Ready Soups	75. Water bottle
34. Jeans	55. Refrigerator	76. Water storage tank
35. Jewellery	56. RO system	77. Wipes
36. Kurti	57. Roasted snacks	

*suggestions by the teacher:*

The students must ensure that the identified product should not be items whose consumption/ use is discouraged by the society and government like alcohol products/pan masala and tobacco products, etc.

Identify one product/service from the above which the students may like to manufacture/ provide [pre-assumption].



Now the students are required to make a project on the identified product/service keeping in mind the following.

1. Why have they selected this product/service?
2. Find out '5' competitive brands that exist in the market.
3. What permission and licences would be required to make the product?
4. What are your competitors Unique Selling Proposition [U.S.P.]?
5. Does your product have any range give details?
6. What is the name of your product?
7. Enlist its features.
8. Draw the 'Label' of your product.
9. Draw a logo for your product.
10. Draft a tag line.
11. What is the selling price of your competitor's product?
  - (i) Selling price to consumer
  - (ii) Selling price to retailer
  - (iii) Selling price to wholesaler



What is the profit margin in percentage to the:

- Manufacturer.
- Wholesaler.
- Retailer.

12. How will your product be packaged?

13. Which channel of distribution are you going to use? Give reasons for selection?

14. Decisions related to warehousing, state reasons.

15. What is going to be your selling price?

(i) To consumer

(ii) To retailer

(iii) To wholesaler

16. List five ways of promoting your product.

17. Any schemes for:

(i) The wholesaler

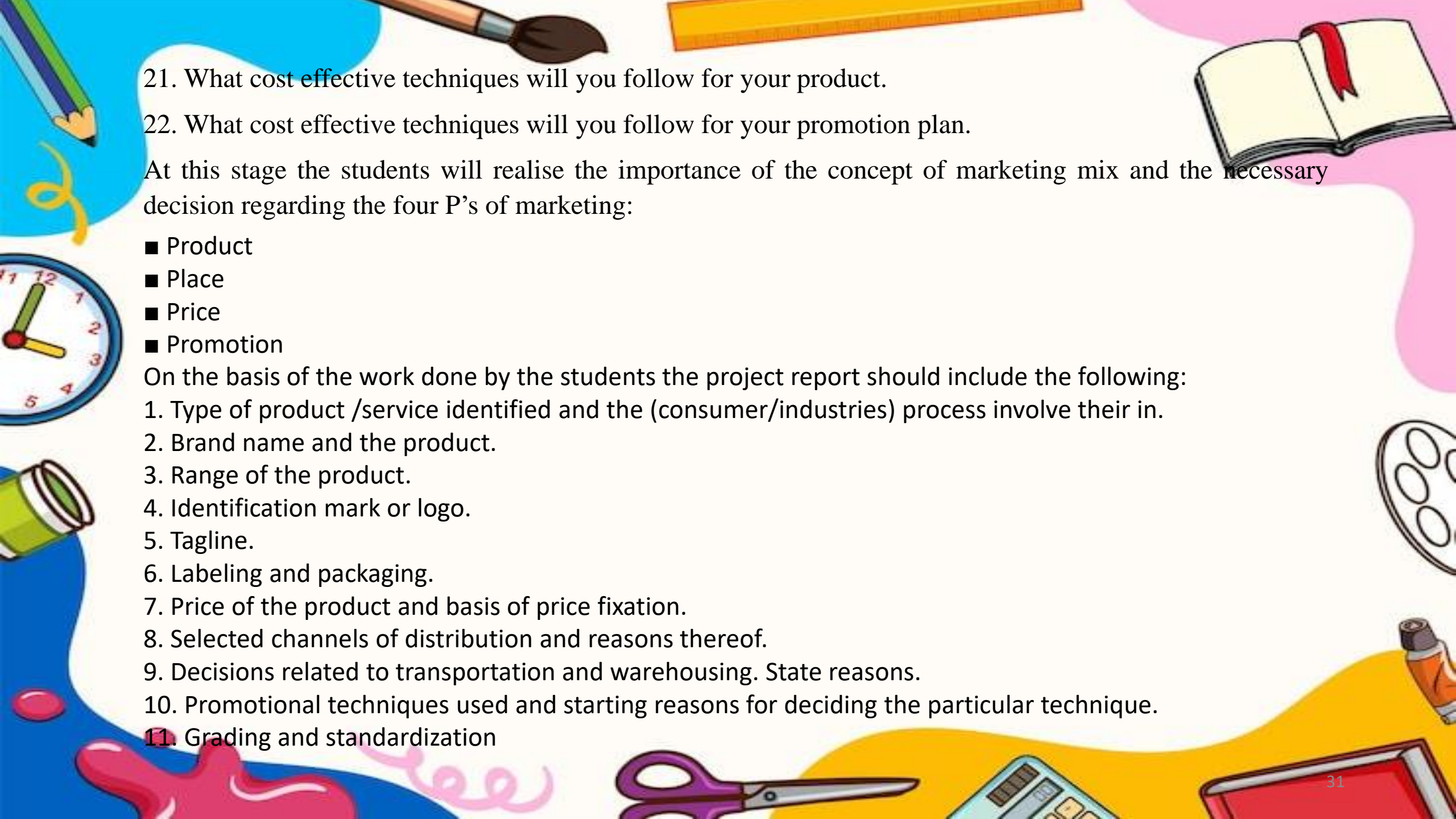
(ii) The retailer

(iii) The consumer

18. What is going to be your 'U.S.P'?

19. What means of transport you will use and why?

20. Draft a social message for your label.



21. What cost effective techniques will you follow for your product.

22. What cost effective techniques will you follow for your promotion plan.

At this stage the students will realise the importance of the concept of marketing mix and the necessary decision regarding the four P's of marketing:

- Product
- Place
- Price
- Promotion

On the basis of the work done by the students the project report should include the following:

1. Type of product /service identified and the (consumer/industries) process involve their in.
2. Brand name and the product.
3. Range of the product.
4. Identification mark or logo.
5. Tagline.
6. Labeling and packaging.
7. Price of the product and basis of price fixation.
8. Selected channels of distribution and reasons thereof.
9. Decisions related to transportation and warehousing. State reasons.
10. Promotional techniques used and starting reasons for deciding the particular technique.
11. Grading and standardization



## PRESENTATION AND SUBMISSION OF PROJECT REPORT

At the end of the stipulated term, each student will prepare and submit his/her project report. Following essentials are required to be fulfilled for its preparation and submission:

1. The total length of the project will be of 25 to 30 pages.
2. The project should be handwritten.
3. The project should be presented in a neat folder.
4. The project report should be developed in the following sequence:
  - Cover page should include the title of the Project, student information, school and year.
  - List of contents.
  - Acknowledgements and preface (acknowledging the institution, the places visited and the persons who have helped).
  - Introduction.
  - Topic with suitable heading.
  - Planning and activities done during the project, if any.
  - Observations and findings of the visit.
  - Conclusions (summarized suggestions or findings, future scope of study).
  - Photographs (if any).

- Appendix
- Teacher's observation.
- Signatures of the teachers.
- At the completion of the evaluation of the project, it should be punched in the centre so that the report may not be reused but is available for reference only.
- The project will be returned after evaluation. The school may keep the best projects.

### **ASSESSMENT**

Allocation of Marks = 20 marks

The marks will be allocated under the following heads:

1.	Initiative, cooperativeness and participation	2 marks
2.	Creativity in presentation	2 marks
3.	Content, observation and research work	4 marks
4.	Analysis of situation	4 marks
5.	Viva	8 marks
	Total	20 marks



# Subject- Economics



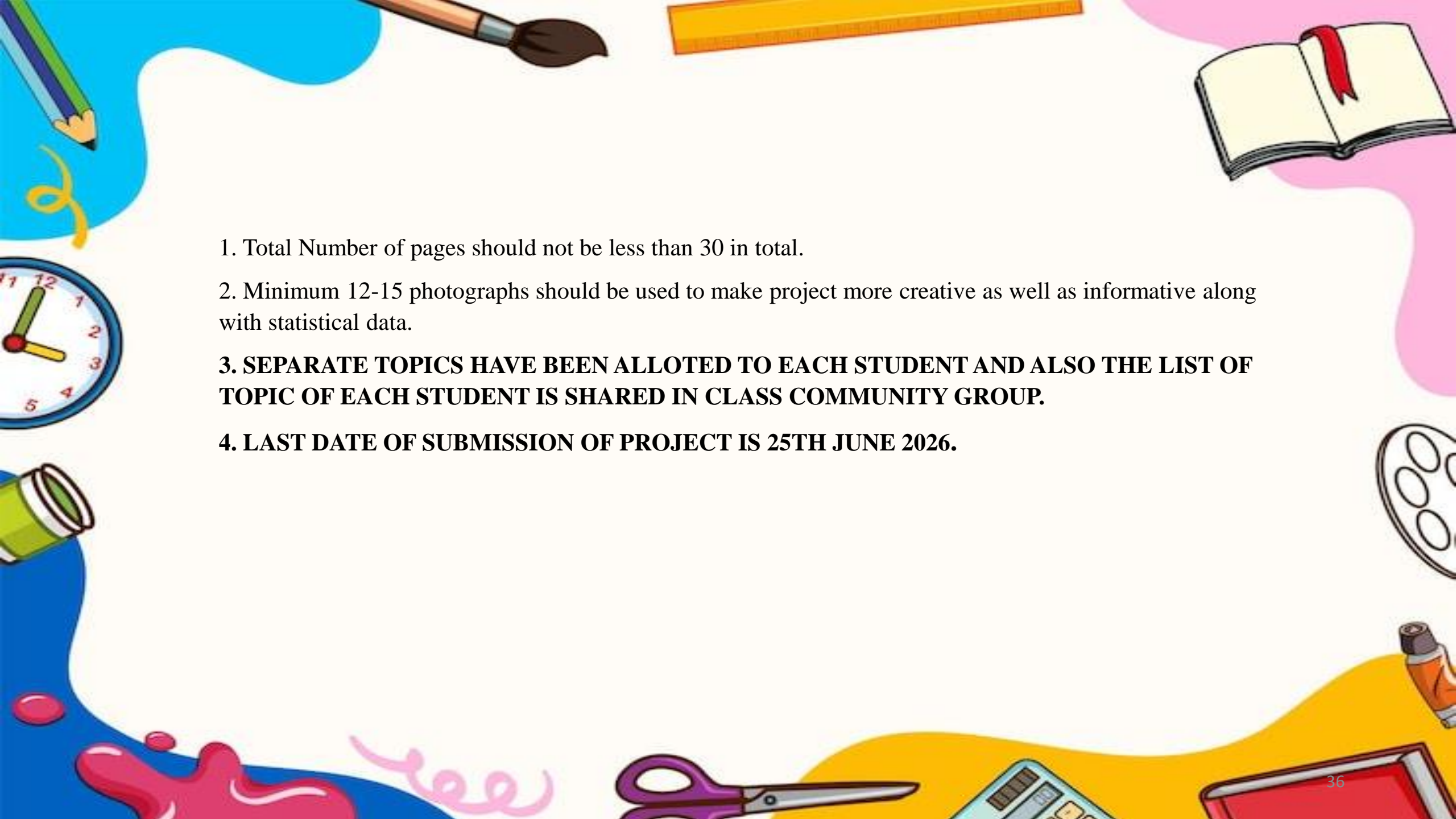
# Economics

## INSTRUCTIONS

For Project File students have to keep in mind following points: -

1. A3 Size sheets to be used.
2. Pages can be coloured/black and white. Pages can be one side line or both side black
3. Red and Green colour pen is not to be used anywhere.
4. Following sequence is to be followed in project
  - a. Page 1: - Self Introduction page containing name, class, section, roll no. (to be left blank), school logo, topic name etc.
  - b. Page 2: - Acknowledgement
  - c. Page 3: - Certificate
  - d. Page 4: - Index
  - e. Page 5: - Introduction of Topic
  - f. Page 6 onwards Content of Topic with a CASE Study related to topic.
  - g. After content Conclusion using Bar diagram, Pie diagram, graphs, tables etc. (minimum 6)
  - h. Last page Bibliography

Key Notes: -

- 
1. Total Number of pages should not be less than 30 in total.
  2. Minimum 12-15 photographs should be used to make project more creative as well as informative along with statistical data.
  - 3. SEPARATE TOPICS HAVE BEEN ALLOTTED TO EACH STUDENT AND ALSO THE LIST OF TOPIC OF EACH STUDENT IS SHARED IN CLASS COMMUNITY GROUP.**
  - 4. LAST DATE OF SUBMISSION OF PROJECT IS 25TH JUNE 2026.**



# **Subject- Applied Maths**



## Applied Maths

### PROJECT WORK-

1. Each day newspaper tells us about the maximum temperature, minimum temperature, and humidity. Collect the data for a period of 30 days and represent it graphically. Compare it with the data available for the same time period for the previous year xv). (Roll No 1 to 10)
2. Analysis of career graph of a cricketer (batting average for a batsman and bowling average for a bowler). Conclude the best year of his career. It may be extended for other players also – tennis, badminton, athlete xvi). (Roll No 11 to 20)
3. Vehicle registration data – correlating with pollution and the number of accidents. (Roll 21 onwards)

## WORKSHEET

1. If  $|A|=5$  and order of matrix is 3 then find the following

- $|adjA|$
- $|2 adjA|$
- $|adj(adjA)|$
- $|5A|$
- $|A^{-1}|$
- $A(adjA)$
- $|A^{-1}A^T|$

2. If the system of equations  $-2x+y+z=a$ ,  $x-2y+z=b$  and  $x+y-2z=c$  is consistent then find the values of  $a+b+c$ .

3. Determine the product  $\begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix} \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$  and use to solve the system of equations  $x-y+z=4$ ,  $x-2y-2z=9$  and  $2x+y+3z=1$ .

4. If  $A = \begin{bmatrix} 1 & -1 & 1 \\ 2 & 1 & -3 \\ 1 & 1 & 1 \end{bmatrix}$  then find  $A^{-1}$ . And hence solve the system of linear equations

$x+2y+z=4$ ,  $-x+y+z=0$  and  $x-3y+z=2$ .

5. If  $A = \begin{bmatrix} 1 & 2 & 2 \\ 2 & 1 & -2 \\ a & 2 & b \end{bmatrix}$  is a matrix satisfying  $AA^T = 9I_3$  then find the values of  $a$  and  $b$ .

6. If matrix  $\begin{bmatrix} 0 & 1 & -2 \\ -1 & 0 & 3 \\ \lambda & -3 & 0 \end{bmatrix}$  is singular, then find  $\lambda$ ?

7. Let  $A = \begin{bmatrix} 1 & 2 \\ -5 & 1 \end{bmatrix}$  and  $A^{-1} = xA + yI$ , then the values of  $x$  and  $y$  are

8. If  $\Delta_1 = \begin{vmatrix} 10 & 4 & 3 \\ 17 & 7 & 4 \\ 4 & -5 & 7 \end{vmatrix}$ ,  $\Delta_2 = \begin{vmatrix} 4 & x+5 & 3 \\ 7 & x+12 & 4 \\ -5 & x-1 & 7 \end{vmatrix}$  such that  $\Delta_1 + \Delta_2 = 0$ , then find  $x$ ?

9. If  $A = \begin{bmatrix} 3 & 5 \\ 2 & 0 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & 17 \\ 0 & -10 \end{bmatrix}$ , then show that  $(AB)^{-1} = B^{-1}A^{-1}$

OR

10. If  $A = \begin{bmatrix} 1 & -1 & 1 \\ 0 & 2 & -3 \\ 2 & 1 & 0 \end{bmatrix}$ ,  $B = (\text{adj } A)$  and  $C = 5A$ , then  $\frac{|\text{adj } B|}{|C|}$  is equal to

11. If  $A(a, b)$ ,  $B(c, d)$  and  $D(e, f)$  are vertices of an equilateral triangle whose side is  $p$ , Then

show that  $\begin{vmatrix} a & b & 1 \\ c & d & 1 \\ e & f & 1 \end{vmatrix}^2 = 3p^4$

12. 20 litres of a mixture contain milk and water in ratio 3:1, the amount of milk in litres to be added to the mixture as to have milk and water in the ratio 4:1.

13. How many litres of water will have to be added to 1125 litres of 45% solution of acid so that the resulting mixture will contain more than 25% but less than 30% acid content?



# **Subject- Informatics Practices**

## Informatics Practices

Instructions-

All the Questions to be done in Copy / Practical file-

Q1. How is Series data structure different from a DataFrame data structure?(3 points)

Q2. Given are the two objects, a list object namely lst1 and a series object namely ser1, both are having similar values i.e. 2,4,6,8. Find the output produced by the following statements-

i) `print(lst1*2)`

ii) `print(ser1*2)`

Q3. Consider the given series ,M1-

	Marks
Term1	45
Term2	65
Term3	24
Term4	89



Write a program in Python to create the series.

Q4. What will be the output of the following program-

```
import pandas as pd
```

```
Fst= [9,10,11]
```

```
Scd=pd.Series(fst)
```

```
Ob1=pd.Series(data=Fst*2)
```

```
Ob2=pd.Series(data=Scd*2)
```

```
print("Ob1")
```

```
print(Ob1)
```

```
print("ob2")
```

```
print(Ob2)
```

Q5. What will be the output of the following code-

```
import pandas as pd
```

```
import numpy as np
```

```
Data=np.array(['a1','b1','c1','d1','e1','f1'])
```

```
s=pd.Series(Data)
```

```
print("l.")
```

```
print(s[:3])
```

```
print("ll.")
```

```
print(s[-3:])
```

Q6. What will be the output of the following:-

```
data=np.data(["a1","b1","c1","d1","e1"])
```

```
s=pd.Series(data,index=[1001,1002,1003,1004,1005])
```

```
print(s[[1002,1003,1004]])
```

Q7. Given a DataFrame df as shown below:

	A	B	C
0	1	2	3
1	4	5	6

a. Create the dataframe as shown above.

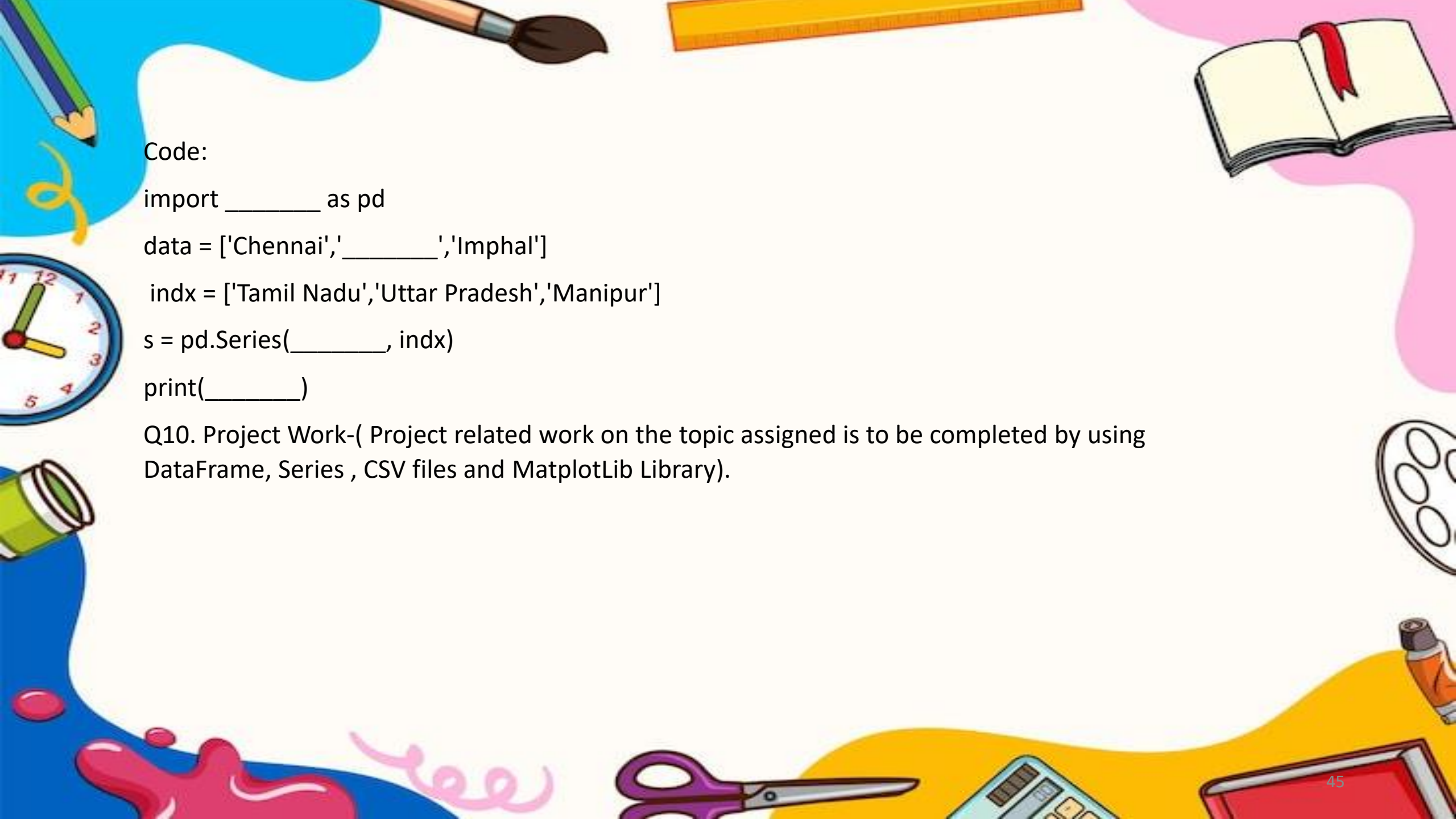
b. Add a new column named ad D having the value- 8,10

c. Add a new row with values- 6,3,2.

Q8. Explain briefly the CSV format.

Q9. Complete the given Python code to get the required output (ignore the dtype attribute) as Output:

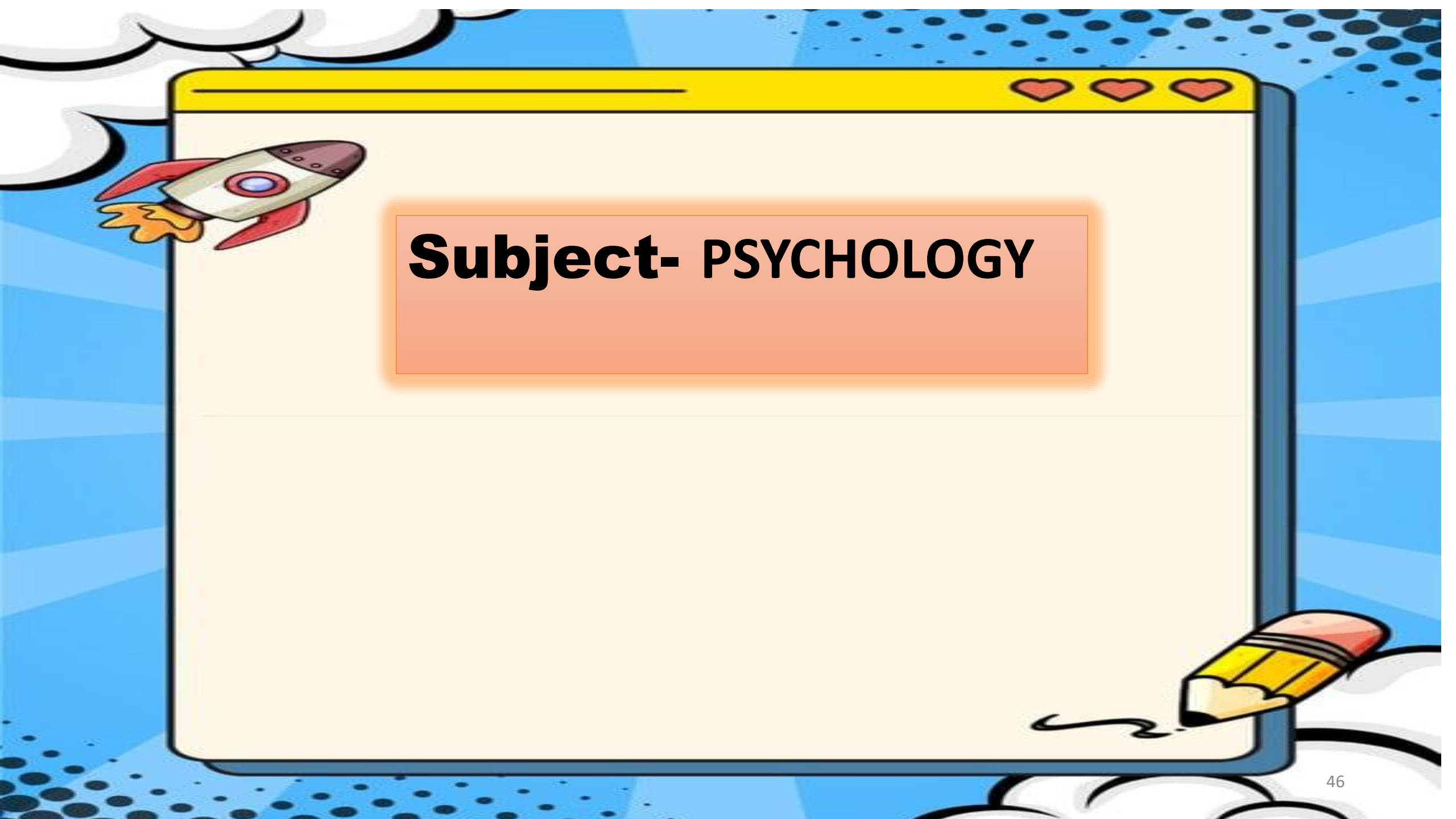
Tamil Nadu	Chennai
Uttar Pradesh	Lucknow
Manipur	Imphal



Code:

```
import _____ as pd  
data = ['Chennai','_____', 'Imphal']  
indx = ['Tamil Nadu','Uttar Pradesh','Manipur']  
s = pd.Series(_____, indx)  
print(_____)
```

Q10. Project Work-( Project related work on the topic assigned is to be completed by using DataFrame, Series , CSV files and Matplotlib Library).



**Subject- PSYCHOLOGY**



## PSYCHOLOGY

### # Prepare a file. (practical A4)

Write about the given topics according to the instructions given in class.

1. Intelligence
2. Personality
3. Aptitude
4. Attitude
5. Adjustment

### # Revise

Chapter –1 ,Variations in Psychological Attributes.

Chapter -2 ,Self and Personality

### # Project Work

1. Case Study ( A4 Size File)

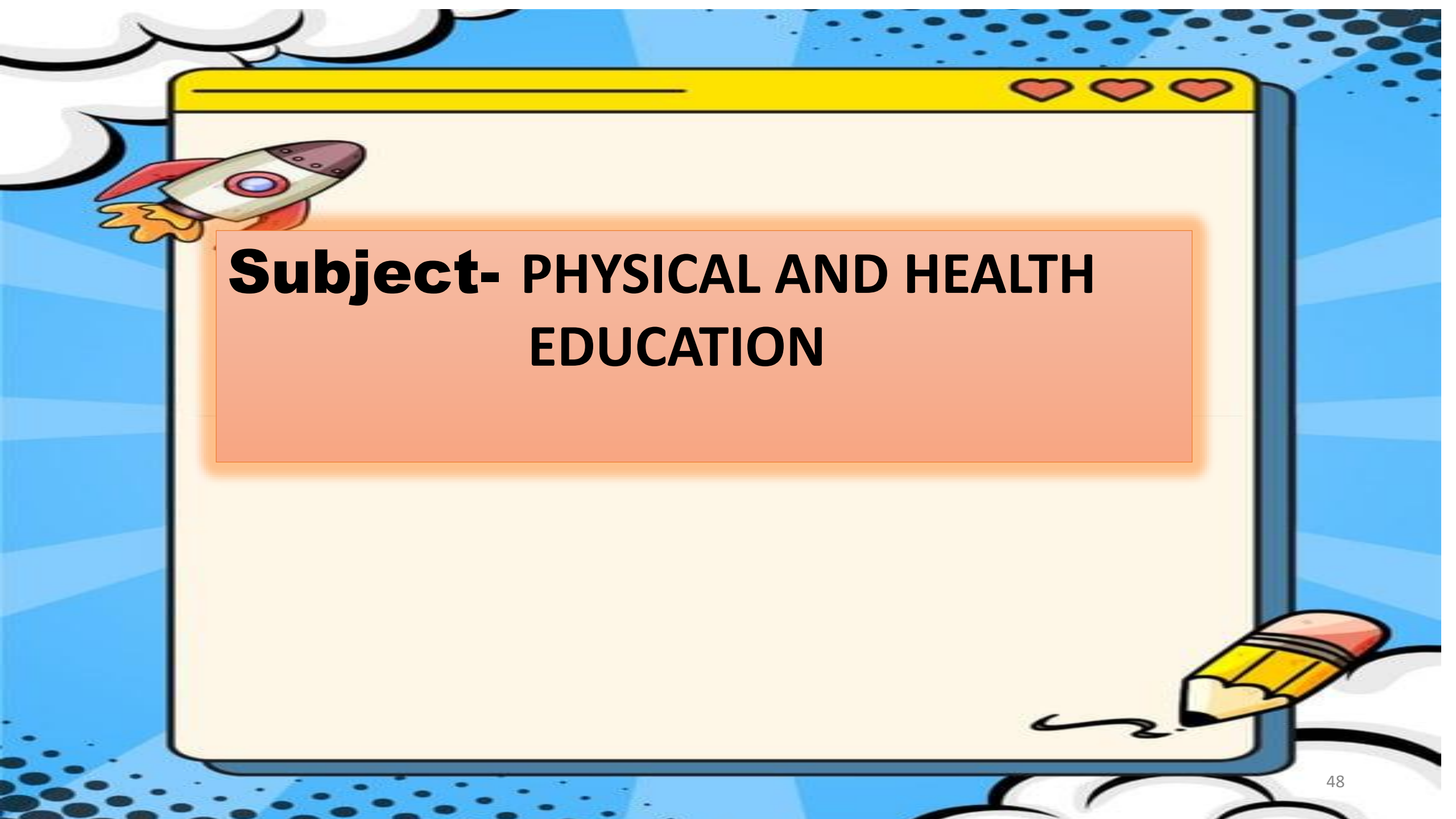
Choose one person (friend/family member) and study:

Habits

Interests

Strengths

Personality traits



**Subject- PHYSICAL AND HEALTH  
EDUCATION**



## PHYSICAL AND HEALTH EDUCATION

### **Practical 1 :-** Details of Athletics

1. History of Athletics
2. Latest rules and regulations
3. Important terminologies
4. Fundamental skills
5. Award winners name
6. Play Field specifications and
7. Tournaments.

### **Practical 2 :-** Details of any major game

1. History of the game
2. Latest rules and regulations
3. Important terminologies
4. Fundamental skills
5. Award winners name
6. Play Field specifications and
7. Tournaments.

### **Practical 3 :-**

Any 6 ASANAS-  
Details And Procedure



**Subject- Yoga**



## Yoga Skill Education

1. What is surya Namaskar ?
2. What is the health benefit of this ?
3. Explain the every step of surya Namaskar in detail like How to Perform Posture and Their Benefits and Who Should Avoid Them.
4. How to help in yoga sadhana ?
5. Explain any 4 pranayam in detail ?

**NOTE :- Students taking Yoga are required to complete this assignment in their practical file; it is not to be done in a register, nor in the Yoga lab manual.**

