ROOP VATIKA
JAGRAON

SUMMER HOLIDAYS
Homework

ROOP VATIKA SCHOOL
AFFILIATED TO CBSE, NEW DELHI

PREFACE

Dear Parents and Students,

Summer vacation is around the corner, bringing with itself a much-needed respite from hectic school days. We hope that you will thoroughly enjoy the vacations and make the most
of this summer. While it is indeed important that you relax and refresh yourselves, it is also important that you exercise your minds.

Keeping this in mind, we have designed various exciting activities to keep the students engaged and active during the summer vacation. These fun projects/ assignments would enhance learning skills, help understand concepts better, and make for a great crash course aimed at improving academic output.

These activities will not only help you to revise what was taught, but will also enrich your knowledge. These projects will be assessed as Subject Enrichment Activity, Portfolio or Art Integrated activity.

We encourage parents to motivate and support the students to ensure the given work is completed in time, to the best of their ability. Your support and encouragement both have a huge impact on your child's learning ability.

The Holiday Home Work is to be done neatly with relevance to the questions asked and to be submitted to the subject teachers within a week of reopening of the school. **Homework submitted late will invite negative marking. It is important that deadlines are met.**

Wishing you a fun filled, safe summer vacation.

PRINCIPAL
ROOP VATIKA SCHOOL
JAGRAON

CLASS: XII | SESSION: 2025–26
SUBJECT: ENGLISH CORE
PROJECT WORK – NEWS REPORT WRITING
Dear Students,
As part of your English Core Holiday Homework, you are required to prepare a News Report Writing Project File. This project will help you enhance your journalistic writing skills and stay connected to current national events. Your task is to write a well-structured news report on the recent humanitarian mission:
TOPIC:
"Operation Sindoor – India's Humanitarian Rescue Mission"
OBJECTIVE:
To enable students to develop skills in news reporting, while improving their awareness of national disaster-response efforts and the role of the media.
INSTRUCTIONS:
1. Use A4-size ruled or plain sheets, and submit your work in a neatly labelled file or folder.
2. The project must have a Cover Page with the following details:
Title: News Report Writing – Operation Sindoor
Your Name, Roll Number, Class & Section
Subject Teacher's Name
School Name
3. Write the news report in the proper format:
Headline
Byline
Dateline
Body (Introduction, Details, Quotes, Conclusion)
4. **Word limit**: 150–200 words
5. Add photographs, sketches, newspaper clippings, or maps to make your file visually appealing.
6. **Avoid plagiarism**. Use your own words and creativity.
7. Submit your work on the first day after the holidays.
SUGGESTIONS FOR CONTENT:
What is Operation Sindoor?
Where and why was it launched?
Role of the Armed Forces, NDRF, and Government
Number of people rescued and areas affected
Any official statements or reactions
Your concluding remarks as a journalist

SUBJECT – Political Science

1.Prepare a project according to CBSE guidelines.

Some suggested topics are:

Hi

1. NAME: RAVNEET, ROLL NO:-16 TOPIC:-DIVISION of Germany with special focus on the construction and dismantling of the Berlin Wall.

2. NAME:- JAPNEET, ROLL NO:-7, NAME PARTIKSHA, ROLL NO:-14TOPIC:- Disintegration of USSR with special focus on Gorbachev.

3. NAME:- RAGHUVANSH, ROLL NO:-15, NAME:- HEMANT, ROLL NO:-5 TOPIC:-BRICS.

4. NAME-NANCY, ROLL NO:-13,NAME: JATIN, ROLL NO:-9 TOPIC:-SAARC.

5. NAME-SANDEEP, ROLL NO:-17,NAME:-IHAM, ROLL NO:-6 TOPIC:-India's Nuclear Policy.

6. NAME: KANCHANDEEP, ROLL NO:-10, NAME:-DIVANSH, ROLL NO:-4 TOPIC:-United Nations with focus on India's candidature in Security Council. & UN Agencies – UNICEF,
UNESCO, WHO.

7. NAME: AGAM, ROLL NO:-2, NAME:-MEHAK, ROLL NO:-11 TOPIC:- Pandemics: Covid 19- Its Global impact (focus on worldwide cooperation and preparedness along with controversies (please collect newspaper clippings for the same).

8. NAME:-ABHIRAJ, ROLL NO:-1,NAME: YUVRAJ,ROLL NO:-19 TOPIC:-Partition of India-Theory behind it and its legacy.

9. NAME:- JASKARAN, ROLL NO:-8,NAME:- TEJINDER, ROLL NO:-18 TOPIC:- Election 2019-Rise of BJP and Downfall of Congress (1989-2019).

10. NAME-MISHTHI, ROLL NO:-12,NAME:- AKAMJOT, ROLL NO:-3 TOPIC:- ASEAN.

FINAL PRESENTATION/LAYOUT OF THE PROJECT
Section 1: Political Science Project (Title of the
Project) Name: School: Year: Roll no.:
Section 2: Certificate of authenticity (To be pasted)
Teacher's Signature
Section 3: Index
Section 4: Acknowledgement (Acknowledging the institution, the place visited and the person who has Helped.)
Section 5: Preface: Problem Statement/Objective of the project

Section 6: Introduction: (Objective/learning outcomes of the project. Introduce the selected topic by Giving some historical background)
Section 7: Summary of the topic Activities done during the project
Section 8: Observations and Analysis
Section 9: Conclusion Summarized suggestions of findings/Future scope of study
Section 10: Appendix Person consulted, Bibliography, Books, Websites, Films/ Television referred.
Section 11: Values and Life skills learned through the project
Section 12: Draft
Section13:VIVAQUESTIONS Thank

you• **General Instructions:**
1. Project should be individual only
2. It should be a handwritten project on a A4 size sheet.
3. Project should be summed up in 25 – 30pages.
4. It should be well researched based on facts and figures and pictorial.
5. The project must have a Table of contents, Title/ Cover page, Acknowledgement, Bibliography,
6. Analysis with headings and sub-headings.
7. It must include relevant news clippings, facts and figures, pictures.
8. You can plan a survey or an interview to supported your research.

2. **Read and revise the chapters taught in the class.**
3. **Complete notes and do assignments in the notebook**

SUBJECT – Sociology

(Students choose your topic according to your choice)
1.Prepare a project according to CBSE guidelines.
Some suggested topics are:
1. Women Empowerment
2. Social media
3. Social Movement
4. Female foeticide
5. Crime against women and children

FINAL PRESENTATION/LAYOUT OF THE PROJECT

Section 1: Political Science Project (Title of the Project) Name: School: Year: Roll no.:

Section 2: Certificate of authenticity (To be pasted)

Teacher's Signature

Section 3: Index

Section 4: Acknowledgement (Acknowledging the institution, the place visited and the person who has Helped.)

Section 5:Preface: Problem Statement/Objective of the project

Section 6:Introduction: (Objective/learning outcomes of the project. Introduce the selected topic by Giving some historical background)

Section 7: Summary of the topic Activities done during the project

Section 8: Observations and Analysis

Section 9: Conclusion Summarized suggestions of findings/Future scope of study

Section 10: Appendix Person consulted, Bibliography, Books, Websites, Films/ Television referred.

Section 11: Values and Life skills learned through the project

Section 12: Draft Thank you

General Instructions:
1. Project should be individual only
2. It should be a handwritten project on a A4 size sheet.
3. Project should be summed up in 20- 25 pages.
4. It should be well researched based on facts and figures and pictorial.
5. The project must have a Table of contents, Title/ Cover page, Acknowledgement, Bibliography,
6. Analysis with headings and sub-headings.
7. It must include relevant news clippings, facts and figures, pictures.
8. You can plan a survey or an interview to supported your research.

2.Read and revise the chapters taught in the class.
3.Complete notes and do assignments in the notebook

Subject: Punjabi

ਬਾਰ੍ਹਵੀਂ ਜਮਾਤ ਵਿੱਚ ਪੰਜਾਬੀ ਵਿਸ਼ੇ ਦੀਆਂ ਗਤੀਵਿਧੀਆਂ ਅਤੇ ਮੁਲਾਂਕਣ

Guidelines for Activities and Evaluation

ਪ੍ਰੋਜੈਕਟ (PROJECT)
ਲਈ ਦਿਸ਼ਾ ਨਿਰਦੇਸ਼

1. ਅਧਿਆਪਕ ਵਿਦਿਆਰਥੀ ਨੂੰ **ਦੋ ਵਿਸ਼ਿਆਂ** ਵਿੱਚੋਂ **ਕਿਸੇ ਇੱਕ** 'ਤੇ ਪ੍ਰੋਜੈਕਟ ਤਿਆਰ ਕਰਨ ਲਈ ਦਿਸ਼ਾ ਨਿਰਦੇਸ਼ ਜਾਰੀ ਕਰੇਗਾ।

2. ਇਹ ਪ੍ਰੋਜੈਕਟ ਤਸਵੀਰਾਂ ਸਹਿਤ ਲਿਖਤੀ ਰੂਪ ਵਿੱਚ 10 ਤੋਂ 15 ਪੰਨਿਆਂ ਦਾ ਹੋਵੇਗਾ।

3. ਅਧਿਆਪਕ ਵਿਦਿਆਰਥੀ ਨੂੰ ਪ੍ਰੋਜੈਕਟ ਦੀ ਚੋਣ ਲਈ ਸਹਾਇਤਾ ਕਰੇਗਾ।

4. ਅਧਿਆਪਕ ਸਮੇਂ-ਸਮੇਂ 'ਤੇ ਪ੍ਰੋਜੈਕਟ ਦਾ ਨਿਰੀਖਣ ਕਰੇਗਾ।

5. ਅਧਿਆਪਕ ਵਿਦਿਆਰਥੀ ਨੂੰ ਹਰੇਕ ਪੱਖ ਤੋਂ ਸਲਾਹ ਦੇ ਕੇ ਖੋਜ ਕਰਨ ਲਈ ਪ੍ਰੇਰਿਤ ਕਰੇਗਾ।

6. ਅਧਿਆਪਕ ਇਹ ਯਕੀਨੀ ਬਣਾਏਗਾ ਕਿ ਪ੍ਰੋਜੈਕਟ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਕੁਝ ਸਿੱਖ ਰਿਹਾ ਹੈ। ਜੇਕਰ ਵਿਦਿਆਰਥੀ ਨੂੰ ਪ੍ਰੋਜੈਕਟ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣ ਤਾਂ ਉਹ ਤਸੱਲੀ-ਬਖ਼ਸ਼ ਜਵਾਬ ਦੇ ਸਕੇ।

7. ਅਧਿਆਪਕ ਵਿਦਿਆਰਥੀ ਦੇ ਪ੍ਰੋਜੈਕਟ ਦਾ ਨਿਰੀਖਣ ਕਰਨ ਲਈ ਕਲਾਸ ਰੂਮ ਵਿੱਚ ਪ੍ਰਬੰਧ ਕਰੇਗਾ।

8. ਅਧਿਆਪਕ ਇਹ ਸੁਨਿਸ਼ਚਿਤ ਕਰੇਗਾ ਕਿ ਵਿਦਿਆਰਥੀ ਨੇ ਉਸ ਪ੍ਰੋਜੈਕਟ ਬਾਰੇ ਹਰ ਪੱਖ ਤੋਂ ਜਾਣਕਾਰੀ ਹਾਸਲ ਕਰ ਲਈ ਹੈ।

ਪ੍ਰੋਜੈਕਟ ਬਣਾਉਣ ਦਾ ਉਦੇਸ਼

1. ਵਿਦਿਆਰਥੀ ਨੂੰ ਬਹੁ-ਪੱਖੀ ਖੋਜ ਕਰਨ ਲਈ ਪ੍ਰਤਿਭਾਸ਼ਾਲੀ ਤੇ ਨਿਪੁੰਨ ਬਣਾਉਣਾ ਹੈ।

2. ਅਧਿਆਪਕ ਨੇ ਵਿਦਿਆਰਥੀ ਨੂੰ ਪ੍ਰੋਜੈਕਟ ਬਣਾਉਣ ਲਈ ਮੌਕੇ ਮੁਹੱਈਆ ਕਰਾਉਣੇ ਹਨ। ਜਿਨ੍ਹਾਂ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਨੇ ਆਪਣੀ ਤੇ ਆਲੇ-ਦੁਆਲੇ ਦੀ ਜਾਣਕਾਰੀ ਦੇ ਨਾਲ-ਨਾਲ ਸ਼ਖ਼ਸੀਅਤ ਦਾ ਵੀ ਨਿਖਾਰ ਕਰਨਾ ਹੈ।

3. ਵਿਦਿਆਰਥੀ ਨੇ ਇਸ ਪ੍ਰੋਜੈਕਟ ਦੁਆਰਾ ਦੇਸ ਵਿੱਚ ਹੀ ਨਹੀਂ ਵਿਦੇਸ ਵਿੱਚ ਵੀ ਪਛਾਣ ਬਣਾਉਣੀ ਹੈ।

4. ਵਿਦਿਆਰਥੀ ਨੂੰ ਪ੍ਰੋਜੈਕਟ ਰਾਹੀਂ ਦਲੀਲ ਭਰਪੂਰ ਤਕਨੀਕ ਤੋਂ ਜਾਣੂ ਕਰਾਉਣਾ ਹੈ।

5. ਪ੍ਰੋਜੈਕਟ ਰਾਹੀਂ ਅਧਿਆਪਕ ਵਿਦਿਆਰਥੀਆਂ ਵਿੱਚ ਮੁਕਾਬਲੇ ਦੀ ਸਿਹਤਮੰਦ ਭਾਵਨਾ ਨੂੰ ਉਜਾਗਰ ਕਰੇਗਾ।

6. ਵਿਦਿਆਰਥੀਆਂ ਦੀ ਸ਼ਖ਼ਸੀਅਤ ਨੂੰ ਬਹੁ-ਅਯਾਮੀ ਪੱਖ ਤੋਂ ਵਿਸ਼ਵ-ਵਿਆਪੀ ਬਣਾਉਣਾ ਹੈ।

ਸੁਝਾਏ ਗਏ ਪ੍ਰੌਜੈਕਟ (SUGGESTED PROJECTS)

1. ਖੁਰਾਕ (ਕਿਸੇ ਇੱਕ ਰਾਜ/ਪ੍ਰਦੇਸ਼ ਆਧਾਰਿਤ)
2. ਪੰਜਾਬ ਦੇ ਮੇਲੇ ਤੇ ਤਿਓਹਾਰ
3. ਬਜ਼ੁਰਗਾਂ ਦਾ ਘੱਟ ਰਿਹਾ ਸਤਿਕਾਰ (ਕਾਰਨ ਤੇ ਸੁਝਾਅ)
4. ਕਰੋਨਾ-ਕਾਲ ਸਮੇਂ ਪੇਂਡੂ ਤੇ ਸ਼ਹਿਰੀ ਜੀਵਨ ਦਾ ਅੰਤਰ
5. ਕਰੋਨਾ-ਕਾਲ ਸਮੇਂ ਆਨ-ਲਾਈਨ ਪੜ੍ਹਾਈ
6. ਕਰੋਨਾ-ਕਾਲ ਸਮੇਂ ਉਭਰੀ ਲੋਕ-ਸੇਵਾ ਭਾਵਨਾ
7. ਕਰੋਨਾ-ਕਾਲ ਸਮੇਂ ਪ੍ਰਦੂਸ਼ਟ ਦੀ ਸਥਿਤੀ
8. ਕਰੋਨਾ-ਕਾਲ ਤੋਂ ਬਾਅਦ ਸਕੂਲਾਂ ਦੀ ਸਥਿਤੀ ਤੇ ਵਿਦਿਆਰਥੀਆਂ ਦਾ ਬਿਹਾਰ
9. ਵਿਦੇਸ਼ਾਂ ਵਿੱਚ ਜਾਣ ਦੀ ਹੋੜ (ਸ਼ੌਕ, ਮਜਬੂਰੀ ਜਾਂ ਸਮਾਜਿਕ ਰੁਤਬਾ)
10. ਸੋਸ਼ਲ ਮੀਡੀਆ ਦਾ ਵੱਧ ਰਿਹਾ ਪ੍ਰਭਾਵ
11. ਵਿਗਿਆਨੀ (ਸਮਾਜ ਨੂੰ ਦੇਣ)
12. ਲੇਖਕ (ਸਾਹਿਤਕ ਦੇਣ)
13. ਮਹਾਂਪੁਰਸ਼ (ਜੀਵਨੀ ਤੇ ਉਪਦੇਸ਼)

Choose one topic and Make a punjabi project file at least 15 pages with decorative file cover.

Subject-Elective Hindi

1. **परियोजना कार्यः-**

   क) ' जयशंकर प्रसाद ' अथवा 'ममता कालिया 'के जीवन पर आधारित परियोजना कार्य बनाइए ।

2. **Do Assignment on Topic ' विभिन्न माध्यमों के लिए लेखन'**
3. **Do assignment on Topic ' कैसे बनती है कविता**
4. **Revise Syllabus of Hindi.**

Subject – Physical Education (048)

Prepare Practical Record Book
Practical –(1) Fitness Test Administration (SAI Khelo India Test) and practice of fitness test.
2) Procedure for Asanas ,Benefits , Contraindication for any Four Asanas for each lifestyle disease .
3) Anyone IOA recognized Sports /Game (kho-kho, Volleyball, Badminton, Kabaddi , Cricket)of choice .Labelled diagram of Field & Equipment Also mentioned it's rules , terminologies and skills .
4) Practice of Yoga Asanas.
5) Revise Unit-1,2,3 ,4 Questions/Answers.

Fine Arts:-

Complete your 15 sheets of A2 size

Entrepreneurship

Student have to make **2 project** files in during the academic session **:**
Topics for the project
1 Business plan
2 Market survey
objectives of the project work:
Objectives of project work are to enable learners to:

Probe deeper into personal enquiry, initiate action and reflect on knowledge and skills, views etc. acquired during the course of class XI-XII.

Analysis and evaluate real world scenarios using theoretical constructs and arguments.

Demonstrate the application of critical and creative thinking skills and abilities to produce an independent and extended piece of work.

Follow up aspects in which learners have interest.

Develop the communication skills to argue logically.

Steps involved in the conduct of the project:
Students may work upon the following lines as a suggested flow chart:

Choose a title/topic

☐☐Collection of the research material/data

☐☐Organization of material/data

☐☐Present material/data

☐☐Analyzing the material/data for conclusion

☐☐Draw the relevant conclusion

☐☐Presentation of the Project Work

Expected Checklist for the Project Work:

☐☐Introduction of topic/title Identifying the product/service.

☐☐Various stakeholders and effect on each of them

☐☐Use of different tools for market assessment and it's analysis

☐☐Implication of 4P's in the process of marketing

☐☐Calculation of various costs involved in the business planning process

☐☐Validity, presentation in the project file reliability, appropriateness and relevance of data used for research work and for Presentation in the project file

☐☐Presentation and writing that is succinct and coherent in project file

☐☐Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

IT

Make the Practical File on A4 Coloured Sheets With proper first Index page .
The writing should be neat and clean.
Note: (The file should be properly covered)
PDF is attached separately.

Health care

Prepare a beautiful project file on following topics for final submission. (According to your name)
1. (partiksha
Describe different types of biomedical waste and their segregation. and Arman)
2. Elderly care and myths and facts about elder people. 3. Understanding common problems of elderly people. (Harman)
4. Structure of operation theatre . (Mishthi and abhiraj)
5. Role of staff in operation theatre.(japneet)
6. Different types of records in hospital.(Arsh and Akam)
(jashan and jatin)

1. If A is a square matrix such that $A^2 = I$, then find the simplest value of $(A - I)^3 + (A + I)^3 - 7A$.
2. Write the number of all possible matrices of order 2 x 2 with each entry 1,2 or 3.
3. If $[2 \quad 1 \quad 3] \begin{pmatrix} -1 & 0 & -1 \\ -1 & 1 & 0 \\ 0 & 1 & 1 \end{pmatrix} \begin{pmatrix} 1 \\ 0 \\ -1 \end{pmatrix} = A$, the write the order of matrix A.
4. If $2\begin{bmatrix} 3 & 4 \\ 5 & x \end{bmatrix} + \begin{bmatrix} 1 & y \\ 0 & 1 \end{bmatrix} = \begin{bmatrix} 7 & 0 \\ 10 & 5 \end{bmatrix}$, then find (x-y).
5. Solve the following matrix equation for x. $(x \quad 1) \begin{bmatrix} 1 & 0 \\ -2 & 0 \end{bmatrix} = O$.
6. If matrix $A = \begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix}$ and $A^2 = kA,$ then write the the value of k.
7. In the interval $\frac{\pi}{2} < x < \pi, find\ the\ value\ of\ x\ for\ which\ the\ matrix$ $\begin{bmatrix} 2\sin x & 3 \\ 1 & 2\sin x \end{bmatrix}$ is singular matrix.
8. For what value of x, $A = \begin{bmatrix} 2(x+1) & 2x \\ x & x-2 \end{bmatrix}$ is a singular matrix?
9. For what value of k, the system of linear equations
$x + y + z = 2; 2x + y - z = 3; 3x + 2y + kz = 4$ has a unique solution?
10. If A is a square matrix of order 3 such that $|adjA| = 64$, find the $|A|$.
   Short Answer (2 marks)
11. If $\begin{vmatrix} x & \sin\theta & \cos\theta \\ -\sin\theta & -x & 1 \\ \cos\theta & 1 & x \end{vmatrix} = 8, then$ write the value of x.
12. If $A = [3 \quad 5], B = [7 \quad 3]$ then find matrix C such that $AC = BC$.
13. If $A = \begin{bmatrix} 0 & 0 \\ 5 & 0 \end{bmatrix}$ find A^{16}.
14. If $A = \begin{bmatrix} \cos\alpha & \sin\alpha \\ -\sin\alpha & \cos\alpha \end{bmatrix}$, find α satisfying $0 < \alpha < \frac{\pi}{2}$ when $A + A^T = \sqrt{2}I_2$; where A^T is transpose of A.
15. Show that $\begin{bmatrix} 2 & -1 & 3 \\ -5 & 3 & 1 \\ -3 & 2 & 3 \end{bmatrix}$ is inverse of the matrix $\begin{bmatrix} -7 & -9 & 10 \\ -12 & -15 & 17 \\ 1 & 1 & -1 \end{bmatrix}$.
16. Find the matrix A such that $\begin{bmatrix} 2 & -1 \\ 1 & 0 \\ -3 & 4 \end{bmatrix} A = \begin{bmatrix} -1 & -8 & -10 \\ 1 & -2 & -5 \\ 9 & 22 & 15 \end{bmatrix}$.
17. The co-operative store of a particular school has 10 dozen physics books, 8 dozen chemistry books and 5 dozen mathematics books. Their selling prices are Rs. 45, 40 and 30 each respectively. Find the total amount the store will receive by selling all books.
18. Let $f(t) = \begin{vmatrix} \cos t & t & 1 \\ 2\sin t & t & 2t \\ \sin t & t & t \end{vmatrix}$ then find $\lim_{t \to 0} \frac{f(t)}{t^2}$
19. A total amount of Rs.7000 is deposited in three different saving bank accounts with annual interest rates 5%, 8% and $8\frac{1}{2}$% respectively. The total annual interest from these three accounts is Rs.550. Equal amounts have been deposited in the 5% and 8% savings accounts. Find the amount deposited in each of the three accounts, with the helps of matrices.
20. Given that $A = \begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$ find AB. Use this result to solve the following system of linear equations : x-2y+z=4; x-2y-2z=9; 2x+y+3z=1.
21. Find A^{-1} if $A = \begin{bmatrix} -1 & 2 & 5 \\ 2 & -3 & 1 \\ -1 & 1 & 1 \end{bmatrix}$ and hence, solve the system of linear equations :
   -x+2y+5z=2; 2x-3y+z=15; -x+y+z=-3..

RELATIONS AND FUNCTIONS:
1. Check whether the relation R in the set {1, 2, 3} given by R = {(1,3),(3,1)} is transitive.
2. If f: R → R defined by f(x)= 3x+2 defined f[f(x)].
3. Let A be the set of all students of a boys school. Show that the relation R in A given by R = { (a,b) ; a is sister of b } is the empty relation and R' = { (a,b) : the difference between heights of a and b is less than 3 meters } is the universal relation.
4. Show that the relation R in the set Z of integers given by R = {(a, b) : 2 divides a – b } is an equivalence relation. Find the equivalence class [0].
5. Show that the number of equivalence relations in the set { 1 , 2, 3 } containing (1 , 2) and (2 , 1) is two.
6. Show that the relation ' is a factor of ' on the set N of all natural numbers is reflexive and transitive but not symmetric.

12. If f : A → B and g: B → C are onto functions , then show that gof: A → C is also onto.

Economics
Topics for Project files
- **The Project Is To Be Done On A4 Size Sheets.**
- **The Project Report Should Be Hand Written By The Students Themselves.**
- **Students May Collect Data From Primary And Secondary Sources Like Newspapers, Books Websites**

• **Pictures Should Be Neatly Pasted On The Project.**
The Project File Should Be 20-25 Pages.
Format:
1. **Cover Page**
2. **Index**
3. **Acknowledgment**
4. **Certificate**
5. **What Is Project?**
6. **Main Content**
7. **Conclusion**
8. **Bibliography**
9. **Teacher's Remarks (To Be Filled By Teachers)**

Ankita	**Government budget**
Dipender	**Micro and small scale industries**
Diya	**Sustainable development**
Drishti	**Comparative study of India Pak and China economy**
Gurshan	**Current employment scenario in India**
Hargun	**Monetary policy and its measure**
Harraj	**Make in India**
Kangana	**Waste management,**
Kanika	**Government budget**
Khushmit	**Micro and small scale industry**
Kirti	**Sustainable development**
Krishna	**Comparative study of India Pak and China economy**
Pankit	**Monetary policy**
Parisa	**Make in India**
Prabhjot	**Environment crisis,**
Shruti	**Government budget**
Simran	**Micro and small scale industries**
Divansh	**Organic farming**
Japneet	**Make in India**
Jaskaran	**Environmental crisis**
Iham	**Monetary policy**
Mishthi	**Sustainable development**