



# Little Flowers Public Sr. Sec. School

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# Summer Vacation

## SESSION 2024-25

## CLASS-X



### SUSTAINABLE DEVELOPMENT GOALS



## **English**

1. Disaster Risk Reduction Activity (DRR):

Create a collage on different natural and man-made causes of agricultural loss. ( A Letter to God) ( On A4 size sheet for portfolio)

2. Make a 1 minute video where you are speaking about a topic based on technology, social issues, education or health and upload the video through the School App from the HOMEWORK section.

3. Art Integrated Project: Create a PowerPoint presentation (PPT) on the topic: "Exploring the Andaman and Nicobar Islands"- A Tropical Paradise in the Bay of Bengal

### **Suggestions for PPT**

\*Brief overview of the Andaman and Nicobar Islands.

- Mention their location in the Bay of Bengal and their significance.

\*Geography and Natural Beauty

\*History and Cultural Heritage

\*Tourist Attractions

\*Flora and Fauna

\*Adventure and Ecotourism

\*Infrastructure and Transportation

Upload the PPT through School App using HOMEWORK section

## **SCIENCE**

● **Do the following questions on A4 Size sheet (portfolio work)**

**A.** Write all the chemical equations (Equations must be balanced) of chapter 1 from NCERT book.

**B.** Draw neat and labelled diagrams of the following from chapter 5

1. Nutrition in amoeba.
2. Human digestive system.
3. Human respiratory system.
4. Human heart.
5. Human excretory system.

**C.** Draw ray diagrams for image formation by spherical mirror and lenses from chapter 9.

**D.** A brief write-up on one of the following topics: (chapter 13)

- Ozone layer depletion. (Sr. no.1 to 20)
- Decomposers and its importance. (Sr. no. 20 onwards)

**E.** Complete the following table: (From atomic no 1 to 20)

atomic number	element	symbol	electronic configuration	valence electrons	valency

- Read the chapter 1,5,9 and 13 thoroughly from NCERT book. Learn all the in text and exercise questions of these chapters.

- Practice to formula writing of compounds, balancing of chemical equations and learn reactivity series of metals.

- Art Integrated Project compare Delhi with Lakshadweep, Andaman and Nicobar Islands**

(a)Prepare PPT (Serial Number.1 to 22) on topic Waste management.

(b)Prepare scrap book (Serial

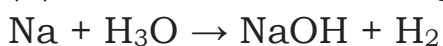
Number-23 onwards) on topic Enlist and explain Types of plants and trees. (Collect photos of plants and trees available in Lakshadweep, Andaman and Nicobar Islands and DELHI and explain them)

- Write answers of the given Assignment questions in**

**(chemistry (Ch 1), Biology (Ch 5) and Physics (Ch 9) Registers:**

Q1 State the law that is followed by balancing a chemical equation.

(b) Balance the following chemical equation:



Q2 1 g of copper powder was taken in a China dish and heated. What change takes place on heating? When hydrogen gas is passed over this heated substance, a visible change is seen in it. Give the chemical equations of reactions, the name and the color of the products formed in each case.

Q 3A compound 'A' is used in the manufacture of cement. When dissolved in water, it evolves a large amount of heat and forms compound 'B'.

(i) Identify A and B.

(ii) Write chemical equation for the reaction of A with water.

(iii) List two types of reaction in which this reaction may be classified.

Q 4 Mention with reason the color changes observe when:

(i) silver chloride is exposed to sunlight.

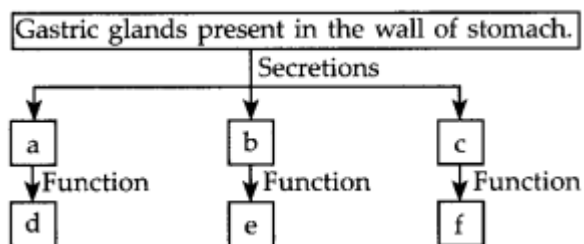
(ii) copper powder is strongly heated in the presence of oxygen.

(iii) a piece of zinc is dropped in copper sulphate solution.

Q5 Lead nitrate solution is added to a test tube containing potassium iodide solution.

- Write the name and color of the compound precipitated.
- Write the balanced chemical equation for the reaction involved.
- Name the type of this reaction justifying your answer.

Q6 Complete the following flow chart as per the given instructions.



Q7 a) State the role played by the following in the process of digestion:

- Enzyme trypsin
- Enzyme lipase-

(b) List two functions of finger-like projections present in the small intestine

Q8(a) What is peristaltic movement?

(b) 'Stomata remain closed in desert plants during daytime'. How do they do photosynthesis?

Q9 (a) Draw a well-labelled diagram of structural and functional unit of kidney.

(b) Explain the mechanism of the urine formation

Q10 Give reasons:

- Ventricles have thicker muscular walls than atria.
- Transport system in plants is slow.
- Circulation of blood in aquatic vertebrates differs from that in terrestrial vertebrates.
- During the daytime, water and minerals travel faster through xylem as compared to the night.
- Veins have valves whereas arteries do not.

Q11 An object is placed at a distance of 12 cm in front of a concave mirror of radius of curvature 30 cm. List four characteristics of the image formed by the mirror.

Q12 Name the type of mirrors used in the design of solar furnaces. Explain how high temperature is achieved by this device

Q13 The linear magnification produced by a spherical mirror is  $+1/3$ . Analyzing this value state the (i) type of mirror and (ii) position of the object with respect to the pole of the mirror. Draw any diagram to justify your answer.

Q14 The refractive indices of glass and water with respect to air are  $\frac{3}{2}$  and  $\frac{4}{3}$  respectively. If speed of light in glass is  $2 \times 10^8$  m/s, find the speed of light in water.

Q15 The image of a candle flame placed at a distance of 40 cm from a spherical lens is formed on a screen placed on the other side of the lens at a distance of 40 cm from the lens. Identify the type of lens and write its focal length. What will be the nature of the image formed if the candle flame is shifted 25 cm towards the lens? Draw a ray diagram to justify your answer.

## **MATHEMATICS**

**Read the following instructions carefully before starting your HHW.**

**Do TASK-A in Assignment Register.**

**Do TASK- B on A4 size sheet of paper.**

**Do TASK- C Art Integration Project on A4 size sheet.**

**Do TASK- D Disaster Management Project on A4 size sheet.**

### **TASK-A**

#### **ASSIGNMENT**

**Q1.** Solve the following pair of linear equations:

$$\frac{x}{a} + \frac{y}{b} = a + b \text{ and } \frac{x}{a^2} + \frac{y}{b^2} = 2$$

**Q2.** Solve for x :

$$(i) \frac{1}{a+b+x} = \frac{1}{a} + \frac{1}{b} + \frac{1}{x}, a, b, x \neq 0$$

$$(ii) 2\left(\frac{2x-1}{x+3}\right) - 3\left(\frac{x+3}{2x-1}\right) = 5, x \neq -3, \frac{1}{2}$$

**Q3.** Solve  $4x^2 - 4a^2x + (a^4 - b^4) = 0$

**Q4.** If the equation  $(1+m^2)x^2 + 2mcx + (c^2 - a^2)$  has equal roots, prove that  $c^2 = a^2(1+m^2)$ .

**Q5.** Places A and B are 100km apart on a highway. One car starts from A and another from B at the same time. If the cars travel in the same direction at different speeds, then they meet in 5 hours. If they travel towards each other, then they meet in 1 hour. What are the speeds of two cars?

**Q6.** Yash scored 50 marks in a test, getting 3 marks for each right answer and losing 1 mark for each wrong answer. Had 4 marks been awarded for each correct answer and 2 marks been deducted for each incorrect answer, then Yash would have scored 50 marks. How many questions were there in the test?

**Q7.** A train covered a certain distance at a uniform speed. If the train would have been 6 km/h faster then it would have taken 4 hours less than the scheduled time. And if the train were slower by 6 km/h then it would have taken 6 hours more than the scheduled time. Find the length of the journey.

**Q8.** A passenger, while boarding the plane, slipped from stairs and got hurt. The pilot took the passenger in emergency clinic at airport. Due to this plane got delayed half an hour. To reach 1500km away in time, the speed of plane was increased by 250 km/h than the usual speed. Find usual speed of train.

**Q9.** Sum of the areas of two squares is  $468\text{m}^2$ . If the difference between their perimeter is 24m, find the sides of the two squares.

**Q10.** Two pipes running together can fill a tank in  $11\frac{1}{9}$  minutes. If one pipe takes 5 minutes more than other to fill the tank separately. Find the time in which each pipe would fill the tank separately.

### **ASSERTION AND REASONING**

**DIRECTION:** In each of the following questions, a statement of Assertion is given followed by a corresponding statement of Reason just below it. Mark the correct answer as:

- a) Both assertion and reason are true and reason is the correct explanation of assertion.
- b) Both assertion and reason are true but reason is not the correct explanation of assertion.
- c) Assertion is true but reason is false.
- d) Assertion is false but reason is true.

**Q11. Assertion:** The system of equations  $4x + py + 8 = 0, 2x + 2y + 2 = 0$  has a unique solution if  $p \neq 4$ .

**Reason:**  $a_1x + b_1y + c_1 = 0$  and  $a_2x + b_2y + c_2 = 0$  have unique solution if  $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$

**Q12. Assertion:** If  $-5$  is a root of  $2x^2 + 2px - 15 = 0$  and  $p(x^2 + x) + k = 0$  has equal roots then  $k = \frac{7}{8}$ .

**Reason:** The equation  $ax^2 + bx + c = 0, (a \neq 0)$  has equal roots, if  $b^2 - 4ac = 0$ .

## CASE STUDY QUESTIONS

**Q13.** Teachers and students of class X of a school had gone to Nandan Kannan for study tour. After visiting different places of Nandan Kannan, lastly, they visited bird's sanctuary and deer park. Rohan is a clever boy and keen observer. He put the question to his friends " How many birds are there and how many deer are there (at particular time) in Nandan Kannan?" Rahul's friend, Nishith gave the correct answer as follows: 'Nishith answered that total animals have 1000 eyes and 1400 legs.'



- (i) If  $x$  and  $y$  be the number of birds and deer respectively, what is the equation of total number of eyes?
- (ii) What is the equation of total number of legs?
- (iii) How many birds are there in the Zoo?
- (iv) How many deer are there in the Zoo?
- (v) Find the total number of animals (birds and deer).

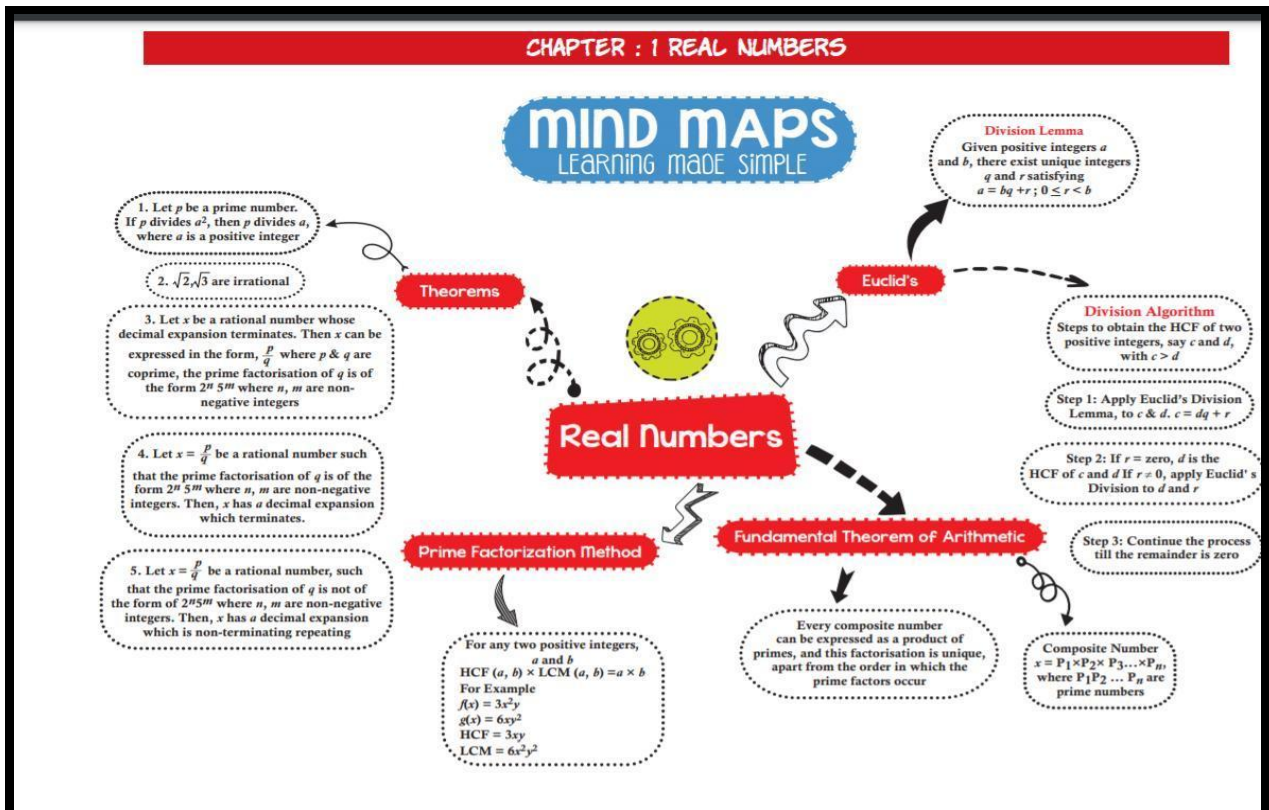
**Q14.** Riya has a lawn with a flowerbed and grass land. The grass land is in the shape of rectangle while flowerbed is in the shape of square. The length of the grassland is found to be 3m more than twice the length of the flowerbed. Total area of the whole lawn is  $1260 \text{ m}^2$ .



- (i) If the length of the flowerbed is  $x$  m then what is the total length of the lawn ?
- (ii) What will be the perimeter of the whole field?
- (iii) What is the value of  $x$  if the area of total lawn is  $1260 \text{ m}^2$  ?
- (iv) What is the area of grass land ?
- (v) What is the ratio of area of flowerbed to area of grass land?

## TASK-B

Prepare a creative formula sheet of Polynomials/Pair of Linear Equations in two variables on A4 size sheet, one example is given here. You can use your own creativity.



## TASK-C



Prepare an art integrated project (work is to be done on A4 size sheet)  
**PAIRED STATE-** LAKSHADWEEP AND ANDAMAN AND NICOBAR ISLAND

**Group 1 (Roll No. 1 to 20)** : Make a table depicting various adventurous activities in Andaman and Nicobar Islands and Lakshadweep Islands and cost of each activity and then make a bar graph of the data collected.

**Group 2 (Roll no. 20 and onwards)** : Make a model of any one monument of Andaman and Nicobar Islands and Lakshadweep Islands highlighting 2D or 3D shapes.

## **TASK-D**

### **DISASTER MANAGEMENT PROJECT**

Artificial intelligence powered solutions may soon make roads in India a safer place to drive. A unique AI approach identify risks on roads and a collision alert system to communicate timely alert to drivers. Do you know what mathematical concepts used in this AI approach ?

Quadratic Equations are mainly used in AI algorithm. Accident investigators measure the length of the skid marks to estimate the speed of the car. This involves using a quadratic function. We can solve many problems involving distance, time and speed with the help of quadratic equations.

One day, Amit was in hurry to reach his office early due to his meeting. He increased his speed by 10 km/h so that the time of journey for a distance of 72 km was reduced by 36 minutes than usual time. Due to hurry, he met with an accident. Answer the following question:

- (i) What was his original speed?
- (ii) Draw a poster on A3 size sheet depicting road safety rules.(from sr.1 to 23)
- (iii) Draw a poster on A3 size sheet depicting tips to prevent road accidents. (from sr. 23 onwards)

## **Social science**

1. Project on following topics (A4 size sheet)

A) R. No. 1 to 15- consumer rights

B) R. No. 16 to 30- social issues

C) R. No. 31 onwards- sustainable development

2. On A4 size sheet,

A) Prepare a report of the General election of 2024 (not less than 2 pages.)

B) Imagine you are a member of a political party and have been assigned to prepare manifesto of your party in the General election. Draft a manifesto for your party (it should not be copied from anywhere.)

3. Map work (globe- Map practice book)

Do Pg no. 20,21,22,26,27,30,32,36,39,37,38

4. Do given assignment in the assignment register

5. Art Integration Project (Paired state lakshadweep , Andaman & Nicobar island)

1.4.2 PHYSICAL ENVIRONMENT ie., LANDSCAPE INCLUDING PLANTATION OF TREES, FLOWERS ETC.

(Make a brochure) Sr.no. 1 to 22.

2.1.3 BRIEF INTRODUCTION OF INDIAN MUSIC

(Do it in the scrap book and explain about Indian music and musicians)

Sr.no.23 onwards.

## **INFORMATION TECHNOLOGY (402)**

**Question 1:** Create a Performa for the cash withdrawal slip of a bank with the help of Online Templates (**Using Word Processor Ex: MS Word, OpenOffice Writer & Google Docs**). Once done, take the printout and attach in your practical file.

OR

Create a Flyer Article of the magazine & once done, take the printout and attach in your practical file. (**refer page no-59 in your textbook**)

## **ARTIFICIAL INTELLIGENCE (417)**

**Question 1:** Do the course on website “**AI FACILITATOR COMMUNITY**” and after completion, maintain the document file (**including screenshots & certificate**) in MS Word.

**Important Steps to be followed:**

1. **Website link:** <https://aifacilitator.community/about>
  - Click on **AI FOR ALL** & Register here - **Setup an account**
2. **Login with Mobile no.**
3. Complete the **two courses (AI AWARE and AI APPRECIATE)**

## **PHYSICAL EDUCATION**

**Project:** Project on Volley Ball: Topic-History of Game, Name of Players, Tournament, Terminology & Rules

**Activity:**

1. Do 15 minutes jogging daily to warm up your body.
2. Do 15 Aerobics exercises for good health.
3. Exercises: “Neck, Hand, Leg”
4. Stretching: “Leg, Thigh, Waist”
5. **Yoga: Practice the following Yoga asana**
6. Do daily 10 cycle of Surya namaskar.



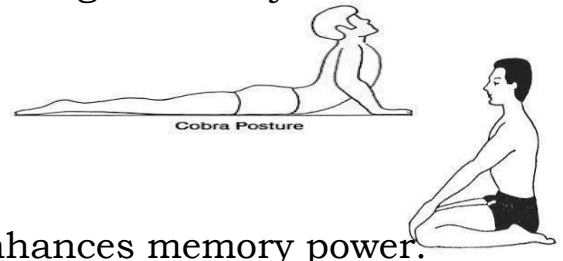
**Halasana**

**Benefits: (a)** It helps the excretory system start working efficiently and Blood Circulation remains appropriate.

### **Bhujangasana**

**Benefits: (a)** It cures the diseases of the liver.

**(b)** It cures the disorder of the urinary bladder.



### **Vajrasana**

**Benefits: (a)** It helps to improve concentration and enhances memory power.

### **Ardhrachakrasana**

**Benefits: (a)** It helps to make ankles, thigh, shoulder, chest, spine, abdomen stronger.

***“Keep calm and stay healthy”***



## **हिंदी**

1. नियमितरूप से समाचार पढ़ते हुए –  
हिंदी समाचार की सहायता से विभिन्न प्रकार के विज्ञापन एकत्रित करके एक आकर्षक कोलाज A3 शीट पर बनाए।
2. हिंदी महीनों के नाम लिखकर उनमें आने वाले पर्व एवं त्योहारों के नाम लिखें। (A4 शीट पर)
3. व्याकरण की पुस्तक में अपठित गद्यांश पृष्ठ संख्या (35 – 40) तथा काव्यांश पृष्ठ संख्या (73 – 80) को पढ़कर पुस्तक में ही सही उत्तर पर निशान लगाए।
4. निम्नलिखित विषयों पर लगभग 120 शब्दों में व्याकरण – उत्तर पुस्तिका अनुच्छेद लेखे।  
(क) अवसर को मत खोठए।  
(ख) मन के हारे हार है , मन के जीते जीत
5. क्षितिज और कृतिका में कराए गये पाठों का अभ्यास करे।

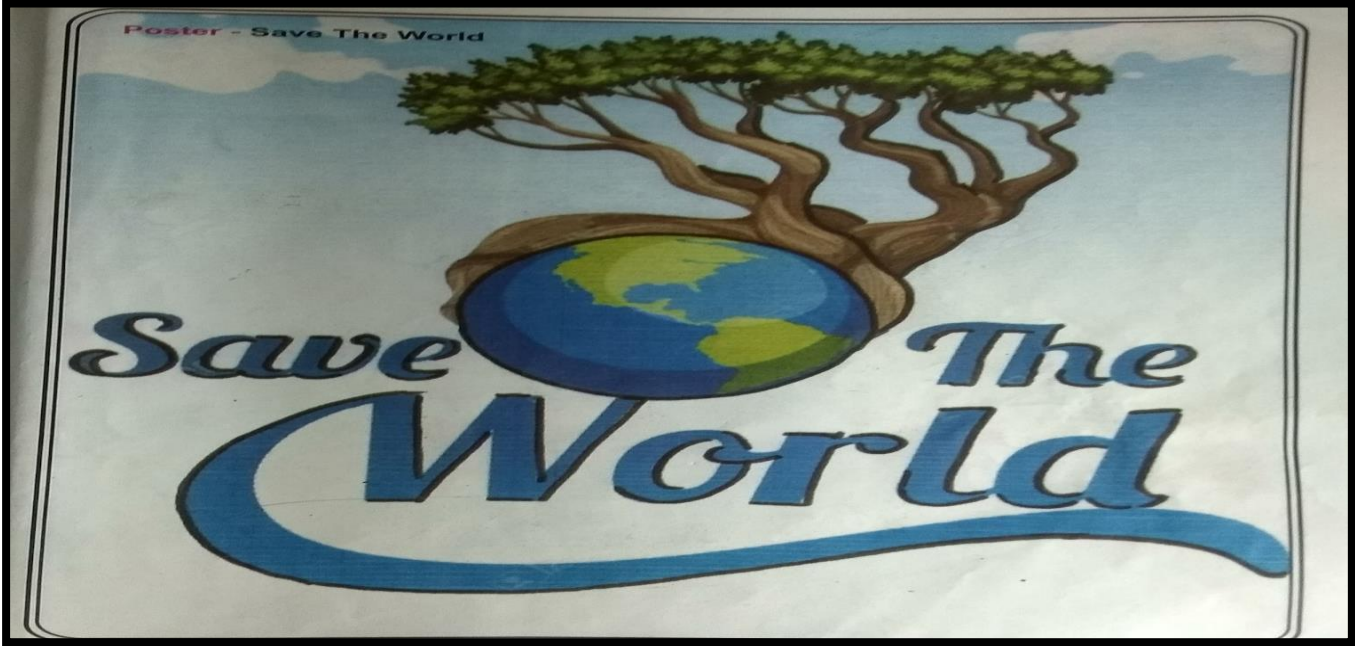
## संस्कृत

- 1) अव्यय - मा , यत् , सम्प्रति , इदानीम् , अधुना , यावत् , बहिः , कदापि , च और अपि के अर्थ लिखकर वाक्य बनाइए।
- 2) पाठ - 4 और 5 के शब्दार्थ कार्य पुस्तिका में लिखिए।
- 3) 'पञ्चतन्त्र' पर आधारित कोई एक लघुकथा संस्कृत में सचित्र लिखिए।
- 4) 'क्ले मोल्डिंग' की सहायता से एक सुंदर घडी का निर्माण करिए। ( कला समेकित गतिविधि)
- 5) ग्रीष्मकालीन अवकाश के मध्य बिताए जाने वाले पलों के चित्र खींचे तथा उसका चित्र वर्णन 50 - 60 शब्दों में A 4 size sheet पर कीजिए।
- 6) अपठित गद्यांश आधारित प्रश्न उत्तर कार्य पुस्तिका में करिए। ( गद्यांश हेतु पी डी एफ homework section पर upload कर दी गई है। )

## Drawing

Draw & Colour of the following topics in drawing file.

1 - poster: Save the World



## 2.Landscape scenery



### Craft

Make useful craft from the waste like cardboard ,

- newspaper or plastic bottles

### **PAT**

- **Question: Make a project on BADMINTON.**
- **TOPICS TO BE COVERED:** History, Name of Players, Tournament, Terminology, Court Measurements & Rules

### **IFM**

Make a project on any one topic from either part A – Employability Skills or part B- Specific Skills.

Instructions:

- 1)The project should be of at least 20 Pages on A-4 Size sheet.
- 2)The sequence should be in the following manner (included 20 pages):
  - i. Name Page
  - ii. Acknowledgement
  - iii. Certificate
  - iv. Index
  - v. Content
  - vi. Bibliography