

DON BOSCO ACADEMY, PATNA
SUMMER HOLIDAY HOMEWORK (2026-27)
STD 9 (MATHEMATICS)

1. Write and learn Trigonometrical Ratios, Reciprocal Relations, Quotient Relations and Square Relations.
2. Write and learn Trigonometrical Ratios of 0° , 30° , 45° , 60° and 90° .
3. Write and learn all the Algebra formula given in page no. 71.
4. Do the following questions:

Exercise	Question Numbers
Ex 16	2(b), 8(c), 17,20,30,34.
Ex 17.1	3, 5, 10(i),(iv), 16, 20, 25.
Ex 17.2	4, 5(ii), 12(ii), 17(iii), 18(ii)
Ex 1.5	2(i), 5(i),(iii), 7(i), 10.
Ex 2.1	7, 10, 11, 14, 17.
Ex 2.2	7, 11, 18, 24(ii), 27.
Ex 2.3	3, 7, 12.

Note – Make a separate notebook for Maths assignment.

Chemistry

Write chemistry practical notes in your chemistry practical notebook

(A) Dry heating of inorganic substances

- 1 Ammonium dichromate
- 2 Copper carbonate
- 3 Ammonium chloride
- 4 Lead nitrate
- 5 Iodine
- 6 Zinc nitrate

B) Identification of gases

- 7 Hydrogen gas
- 8 Ammonia gas
- 9 Hydrogen chloride gas
- 10 Sulphur dioxide gas

Biology

Write Biology practical notes and draw the diagrams in your practical notebook from the pdf provided.

Commercial Studies

Project work

standard 9

commercial studies

Take any two topics given in the list of project work

How to prepare a project

Distribute the project as follows

1. Cover page
2. Acknowledgement
3. Certificate
4. Contents
5. Introduction
 - a) what is a project
 - b) purpose/objective of preparing a project
 - c) advantages and disadvantages of a project
6. Write about company history
7. Sources of a data collection on hypothetical situations
8. Data analysis
9. Conclusion
10. Bibliography

ECONOMICS

QUESTION 1:

Explain the features of Indian Economy at the time of independence.

QUESTION 2:

What is Economic Growth? Explain its features and factors affecting it.

QUESTION 3:

What is the role of the Government in economic development of a country. Explain ?

QUESTION 4.

Who are Consumers? What is its role in the market?

QUESTION 5:

Write differences between Economic Growth and Economic Development. ?

QUESTION 6:

What are the basic economic problems face by the producer ?

Computer Application

Make a project for Ethical issues in Computing.

In a separate copy.

English Language

(The English Language Holiday Homework is to be done in your classwork notebook.)

1. Do question 5 (i to iv) (Grammar Exercises) of Test Papers 10 to 14 from your Text Book - Pearls of English Language.
2. Copy down the following Collocations in your notebook and learn them.
Learn their meaning too.

What is a collocation?

A collocation is two or more words that often go together.

1. **excruciating pain** - (maiden trip / flight / mission / race) - He was writhing on the ground in excruciating pain.

- 2. commit suicide** – The novel ends with the protagonist committing suicide out of despair.
- 3. burst into tears** – She burst into tears when she heard of her pet cat's death.
- 4. wave frantically** - The men were spotted by chance, waving frantically to attract attention.
- 5. an utterly stupid** - Invading that country was an utterly stupid thing to do.
- 6. a richly decorated room** - We entered a richly decorated room.
- 7. maiden voyage** - The Titanic sank on its maiden voyage.
- 8. whisper softly** - Mary whispered softly in John's ear.
- 9. vaguely remember** - I vaguely remember that it was growing dark when we left.
- 10. auspicious occasion (auspicious moment - auspicious event)** - The entire family gathered to celebrate the auspicious occasion of their grandparents' 50th wedding anniversary.
- 11. hard-earned money** - Once you get a job, you'll know what hard-earned money really is.
- 12. counterfeit money** - Be on the lookout for counterfeit money in circulation.
- 13. deeply regret** - I deeply regret the loss of your loved one.
- 14. a heavy smoker** - My grandfather was a heavy smoker.
- 15. a devoted wife** - She was a devoted wife who loved her husband more than anything else in the whole universe.
- 16. a crashing bore** - I always avoid his company because he is a crashing bore.

17. a golden opportunity - It is a golden opportunity. If you miss it, you will regret it.

18. slightly annoyed - Although I was slightly annoyed by her attitude, I said nothing.

19. mellifluous English (a deep mellifluous voice) - He speaks in mellifluous English mixed with Hindi and Bengali. / The singer's deep mellifluous voice resonated through the concert hall, leaving the audience in awe.

20. impeccable manners(impeccable taste – impeccable credentials) - He is a man of impeccable manners. / His English is impeccable.

English Literature

(The English Literature Holiday Homework is to be done in your Literature notebook.)

1. Read the extract given below and answer the questions that follow:

*I. Dawn freshens, the climb is done.
Down towards Glasgow she descends
Towards the steam tugs yelping down the glade of cranes,
Towards the fields of apparatus, the furnaces Set on the dark plain like gigantic chessmen.
All Scotland waits for her :
In the dark glens, beside the pale-green sea lochs Men long for news.*

- (i) Where is the train heading to? How has its initial journey been described by the poet ? (3)
- (ii) How has Glasgow been described in the above extract ? (3)
- (iii) Explain, ' the furnaces/Set on the dark plain like gigantic chessman' . (3)
- (iv) Briefly describe the things carried by the Night Mail. (3)
- (v) What does the poet convey about the waiting people of Scotland later in the poem? (4)

II. *Asleep in granite Aberdeen,
They continue their dreams,
And shall wake soon and long for letters, And none will hear the postman's knock
Without a quickening of the heart, For who can bear to feel himself
forgotten?*

- (i) Describe the different landscapes the Night Mail has travelled passed? (3)
- (ii) What have the people been dreaming of? What do they expect when they wake up? (3)
- (iii) From the poem, what qualities can we infer about the Night Mail? Support your answer with examples from the poem. (3)
- (iv) In what way does the poet emphasise 'human connections' ? (3)
- (v) Discuss the central theme and message of the poem, 'The Night Mail' . (4)

III. *"I am Ang, from the planet Craneus. A far superior being than man."*

- (i) Who was Ang? Describe his appearance according to the extract. (3)
- (ii) What made Bonku Babu feel uncomfortable? How did Ang introduce himself to Bonku Babu? (3)
- (iii) What tells you about Ang's superiority to ordinary human beings? (3)
- (iv) What kind of transformation happens to Bonku Babu after meeting Ang? (3)
- (v) Compare Ang and Bonku Babu. (4)

Physics

DON BOSCO ACADEMY PATNA
PHYSICS
HOLIDAY HOMEWORK(2026-27)
CLASS IX

- Q1. What is meant by measurement?
- Q2. What do you understand by the term unit?
- Q3. What do you understand by basic unit?
- Q4. Write the S.I unit of the following:
- a. Temperature
 - (b) luminous intensity
 - (c) amount of substance
 - (d) electric current.
- Q5. What is meant by derived unit? Give any two examples of derived unit.
- Q6. Define 1 A.U. Write a relation between 1 A.U and S.I unit of length.
- Q7. Write a relation between nanometre and angstrom.
- Q8. Define one light year.
- Q9. What does slope of displacement-time graph represents. Draw a displacement- time graph for a body moving with uniform velocity.
- Q10. Which physical quantity is measured in
- (a) light year
 - (b) Parsec?
- Q11. Write the derived unit of following physical quantity:
- a. Speed or velocity
 - b. Acceleration
 - c. Force
- Q12. The distance of a distant star is 100 light years from earth. What do you mean by the statement?
- Q13. What is seconds' pendulum? What is its frequency?
- Q14. How the time period of simple pendulum depends upon
- a. Effective length of the string

- b. Acceleration due to gravity
- c. Mass of the bob
- d. Amplitude of the simple pendulum

Q15. Draw a graph showing the variation of “square of time period (T)” and effective length (l) of a simple pendulum.

Q16. Compare the time periods of two simple pendulum of length 4m and 9m at a place?

Q17. Calculate the length of a second' pendulum at a place. (Take $g=10\text{N/kg}$)

Q18. Write a relation between time period and frequency of a simple pendulum. Also find the time period of a simple pendulum whose frequency is 0.4Hz.

Q19. Distinguish between scalar and vector quantities. (Write two points of difference).

Q20. Write one point of difference between rest and motion.

Q21. What do you understand by one dimensional motion?

Q22. Distinguish between distance and displacement. (Write 3 points of difference).

Q23. State the condition when distance and displacement of a moving body is same.

Q24. Distinguish between speed and velocity. (3 points)

Q25. A body moves in a uniform circular motion. Answer the following questions:

- a. Is the speed of body uniform or variable?
- b. Is the velocity of body uniform or variable? Give reason.
- c. Does the body possess acceleration? Give a reason.

Q26. Define acceleration. Write its S.I unit.

Q27. What is meant by retardation? Is it scalar or vector?

Q28. Derive $v^2 = u^2 + 2as$ where v is final velocity, u is initial velocity, a is acceleration and s is displacement.

Q29. (i) what does area under velocity-time sketch and x-axis represents?

(ii) what does slope of velocity -time graph represents?

Q30. Draw a velocity time graph for a body moving with (a) uniform velocity
(b) uniform acceleration.

Q31. What is instantaneous speed? When is instantaneous speed same as average speed?

Q32. A body moves with uniform velocity. Find its acceleration.

Q33. The speed of a car is 36km/hr. Express it in m/s.

Q34. When a body starts from rest, what is its initial velocity?

Q35. A body initially moving with some velocity and comes to rest after some time, what is its final velocity?

Q36. A man moves 8km from A to B due east in 3 hours. He then turns left and moves 6km from B to C due north in 2 hours. Find

(a) His displacement.

(b) his average speed

(c) his average velocity

Q37. A car starts from rest and acquires a velocity of 18m/s in 3 seconds. Find its acceleration.

Q38. A body moves with uniform acceleration of 5m/s^2 . What do you mean by the statement?

Q39. What does speedometer of a vehicle measures?

Q40. Draw (a) acceleration- time graph , (b) velocity- time graph, and (c) distance- time graph, for a freely falling body under gravity.

THE END

BIOLOGY

HOLIDAY HOMEWORK BIOLOGY CLASS 9

Question 1.

Write a biological explanation for the following.

1. Conducting tissues in plants are called Complex tissue
2. Older xylem provides support to plants
3. Sclerenchyma is a dead tissue
4. Bougainvillea has colorful Bracts
5. Androecium of pea is called diadelphous.
6. Ray florets of Sunflower are called neuter flowers
7. Seeds kept in a refrigerator or hot oven fail to germinate
8. Seeds placed under running water germinate faster than those kept in a closed container filled with water.
9. Sometimes seeds fallen in the soil fail to germinate even if favorable conditions are provided.
10. Sprouting of shoots from potato during rainy season is not germination
11. Sprouted grains are considered to be highly nutritive.
12. Plants like Sonneratia growing in marshy areas show viviparous germination.
13. During germination of pea the Plumule emerges from the soil arched but in maize it comes out straight.
14. Cells are generally small intestine in size
15. Robert Hooke failed to discover protoplasm
16. Mitochondria are called the powerhouse of cells
17. Lysosomes are called suicide bags
18. Tomatoes turn red on ripening
19. Water turns pink when some beetroot pieces are boiled but remains colorless when few pieces of carrot are boiled
20. Petals of flowers generally look faded after a heavy rain.

Question 2.

Name the tissue located in

1. lining of mouth
2. Outer surface of Skin
3. Outer ear
4. Walls of heart
5. Leaf stalk
6. Veins of leaves
7. Pulp of pear and apple
8. Walls of alimentary canal
9. At the joints between two bones
10. Fluid surrounding the body cells

Question 3 .Name the cell structure associated with the following functions

1. Intracellular transport
2. Cell division in animals
3. Intracellular digestion
4. Secretion of enzymes and hormones
5. Maintains Turgidity and shape of plant cell.
6. Synthesis of ATP / respiratory enzymes
7. Single walled dense bodies associated with protein Synthesis
8. Dense bodies in nucleus which forms and stores RNA
9. Self autonomous bodies in a cell which have DNA and Synthesize ATP
10. Network of Tubular structures which Synthesize proteins and fats.

Question 4. Name the following

1. A cell organelle present only in
Plant cell
Animal Cell

2. A cell inclusion present only in
Plant cell
Animal cell

3. Longest cell in
Plant
Animal

4. Circular, biconcave, enucleated cells in animals

5. Amoebic cells which can squeeze out through capillary walls

6. Bean shaped cells in plants

7. Chemical substance forming
Cell wall
Cell membrane

8. Plastid present in
Cells of potato
Bright petals
Cells of green leaves

9. A water soluble pigment present in the vacuole of plant cells

10. A cell structure visible only during cell division

Q 5 a. Name the cell structure associated with photosynthesis.
b. Draw a labeled diagram of the structure named above.
c. Name the pigment present in this structure and state its role in photosynthesis

Q6 a. Draw a well labelled diagram of a nerve cell
b. What is meant by a nerve fibre.

Q7. Which cell structure is the site for respiration.
Draw a neat labelled diagram of the structure named above.

History & Civics

HISTORY HOLIDAY HOMEWORK-2024-25

STD IX

- 1.) Complete the Question Answers for the following chapters- Elections and Medieval India: The Cholas.
- 2.) Thoroughly learn the chapters taught in class.
- 3.) Make the History Project for your internal assessment according to the instructions mentioned below.

HISTORY PROJECT

THE DAWN OF MODERNITY IN EUROPE- RENAISSANCE

Instructions:-

- 1.) The students should only use the School Project Copy containing 96 pages. (Around Rs 65). They will cover it with Cellophane sheets. No other copy shall be used.
- 2.) Students shall not use red or green pen for writing. Only black or blue ball pen can be used, at the discretion of the student.
- 3.) Students may either paste black and white or coloured pictures. They may even draw sketches of characters/events. A brief description of the picture pasted should be provided.
- 4.) The project should contain a minimum of 30 pages. The maximum page limit lies on the discretion of the student.
- 5.) The students shall not to decorate the project with any stickers or other ornaments.
- 6.) The students shall fill in the details- name, class, section and roll number correctly.

Content:-

The following order is to be followed for the History Project.

- 1.) Acknowledgment
- 2.) Content/ Index
- 3.) Introduction to History Project
- 4.) Introduction to Renaissance- A brief sketch of the scenario before Renaissance,
- 5.) Causes for Renaissance - All causes such as Capture of Constantinople, Decline of Feudalism, Discovery of New Trade Routes, Spirit of Enquiry and Printing Press to be discussed in detail
- 6.) Principles of Renaissance with stress on Humanism
- 7.) Impact of Renaissance on Art, Painting and Literature with special reference to Leonardo Da Vinci, William Shakespeare and Nicholas Copernicus
- 8.) Conclusion (it should be your own interpretation)
- 9.) Bibliography (sources from which the content has been drawn)
- 10.) Thank You

Note:-

The students should submit the Project on **28th July, 2026**. It is mandatory to submit the work on time.

- 4.) Make 20 MCQs from all the chapters taught: Civics: Elections and History: The Cholas. Write them in your fair notebook.

ACKNOWLEDGEMENT

I, Abhishek Singh Arora, of 10th C would like to offer my gratitude to the people who helped me in completing this project and enriching my knowledge.

Firstly, I thank the school administrators for facilitating our education.

I would like to offer my gratitude to my history teacher Mrs. Jyoti Kumari for providing us ample knowledge on the concern topic. The opportunity to make this project has vastly broadened my knowledge and helped me appreciate historical facts in a better light.

I would also like to thank my parents for providing me with the required assistance so I could finish my work in the allotted time limit, and also for encouraging me to give my best. I am deeply obliged.

Geography

Geography Project Work (2026-27) For Class IX

Name of the Topic - **Pollution**

Format of the Project :

i) Acknowledgement

ii) Contents :

1. Introduction of the topic
2. Aim of the project
3. Types of pollution
4. Air pollution
5. Water pollution
6. Soil pollution
7. Radiation
8. Noise pollution
9. Preventive measures
10. Conclusion
11. Bibliography

Points to be noted when writing a Project :

1. Follow the format of the project which is given to you.
 2. Handwriting should be neat and words should be clearly written.
 3. Use either blue or black Gel pen for writing.
 4. Headings and sub-headings should be clearly written and highlighted.
 5. Pictures should be pasted neatly and headings should be given
 6. Pictures should be Photostatted and diagrams and sketches should be used to explain facts.
 7. No decorative materials to be used
 8. The topic heading ,the name ,the class and roll no. of the student should be written on the first page of the project copy.
 9. Refer to the textbook chapters 15, 16 & 17 which are on pollution.
 10. Use only a practical notebook prescribed by the school.
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