



# DELHI PUBLIC SCHOOL GAYA

(Under the aegis of the Delhi Public School Society, New Delhi)  
Affiliated to C.B.S.E, New Delhi Affiliation No.330530, School Code – 65572

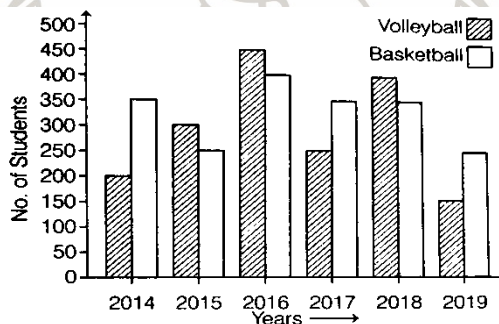
## DURGA PUJA HOLIDAY ASSIGNMENT CLASS-X (ACADEMIC SESSION: 2025-26)

Are you looking for some interesting fun learning assignment to make your learning session interesting and engaging? Here in this assignment, you will find some very interesting and engaging tasks that will be fun solving.

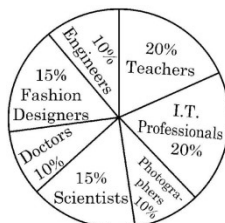
### ENGLISH LANGUAGE AND LITERATURE (184)

1. **Writing Skills:** (*Attempt all the four questions given below*) (*Compile in A4 sheets, add to your portfolio.*)

- (a) You are Ishaq Shah, of Starlight Apartments, Trivandrum. You recently read an article that stated an average Indian wastes approximately fifty kilograms of food per year. Write a letter to the Editor of a National Daily, in about 120 words, expressing your concerns about the alarming amount of food waste in the country. Share practical ideas and suggestions for reducing food waste at home and encourage readers to distribute surplus food to those in need.
- (b) You are pained to see that in your city, there is no proper arrangement for cleaning of drains. There are heaps of accumulated garbage and stagnant water. Write a letter to the Municipal Commissioner of your city complaining about the same as there is a fear of outbreak of disease. You are Alka/Ashish.
- (c) The given bar graph shows the preferences of children in a school in playing different games over the span of six years. Write an analytical paragraph about the given information in about 100 - 120 words.



- (d) In an exclusive survey conducted by a leading daily, students of class X expressed their job preferences. On the basis of the information given in the pie chart, write a paragraph, in 100-120 words, analysing the careers they want to pursue after school.



## हिन्दी (085)

- अपने अभिभावकों से कुछ लोक कथाओं को सुनिए। उनमें से किसी एक कथा को लगभग 100 शब्दों में लिखिए तथा लोक कथा पर आधारित निम्नलिखित प्रश्नों के उत्तर संक्षेप में लिखिए:-
  - आपने जो लोक कथा सुनी, उसमें मुख्य पात्र कौन था और उसने क्या महत्वपूर्ण कार्य किया?
  - इस कथा का नैतिक सन्देश क्या था? इसे आप अपने जीवन से कैसे जोड़ सकते हैं?
  - क्या इस कथा के किसी हिस्से को आप बदलना चाहेंगे? यदि हाँ तो क्यों?
- 'कारतूस' कहानी के आधार पर वजीर अली और शमसुद्दौला खान के योगदान पर आधारित निम्नलिखित प्रश्नों के उत्तर लिखिए:-
  - वजीर अली का स्वतंत्रता आंदोलन में सबसे महत्वपूर्ण योगदान क्या था?
  - शमसुद्दौला खान और अंग्रेजों के बीच संघर्ष किस प्रकार से शुरू हुआ?
  - वजीर अली और शमसुद्दौला के योगदान का भारतीय इतिहास में क्या महत्त्व है?
- 'दुर्गा-पूजा' से जुड़ी पौराणिक कथा का वर्णन अधोलिखित प्रश्नों के आधार पर कीजिए।
  - महिषासुर कौन था और उसके अत्याचारों से देवता क्यों व्यथित हो उठे?
  - 'देवी-दुर्गा के नौ रूपों का सचित्र वर्णन कीजिए।'
  - देवी-दुर्गा का प्राकट्य किस उद्देश्य से हुआ था?
  - महिषासुर वध की कथा से हमें कौन-सी शिक्षा प्राप्त होती है?

## संस्कृत (122)

- प्रत्येक पाठ से सन्धि और समास के पाँच-पाँच उदाहरण लिखिए।
- दुर्गा जी का चार्ट पेपर पर स्वयं चित्र बनाकर संस्कृत में पाँच वाक्य लिखिए।

## MATHEMATICS (041)

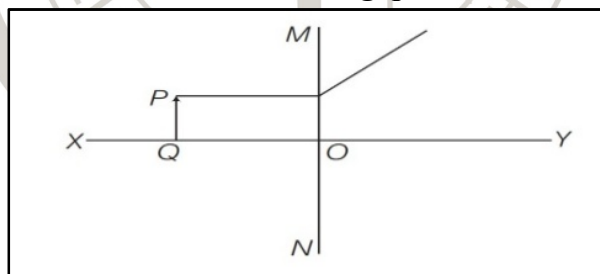
- $$\frac{(1 + \sin \theta)^2 + (1 - \sin \theta)^2}{2 \cos^2 \theta} = \frac{1 + \sin^2 \theta}{1 - \sin^2 \theta}$$
- $$\frac{\tan \theta}{1 - \cot \theta} + \frac{\cot \theta}{1 - \tan \theta} = 1 + \tan \theta + \cot \theta$$
- $$\sqrt{\frac{(1 - \cos A)}{(1 + \cos A)}} + \sqrt{\frac{(1 + \cos A)}{(1 - \cos A)}} = 2 \operatorname{cosec} A$$
- $$\frac{\sec \theta - 1}{\sec \theta + 1} = \left( \frac{\sin \theta}{1 + \cos \theta} \right)^2$$
- If  $\tan \theta = \frac{1}{\sqrt{2}}$ , find the value of  $\frac{\operatorname{cosec}^2 \theta - \cot^2 \theta}{\operatorname{cosec}^2 \theta + \cot^2 \theta}$ .
- A tower stands vertically on the ground. From a point on the ground, 20 m away from the foot of the tower, the angle of elevation of the top the tower is  $60^\circ$ . What is the height of the tower?

7. A vertical tower stands on a horizontal place and is surmounted by a vertical flag staff. At a point on the plane 70 meters away from the tower, an observer notices that the angles of elevation of the top and bottom of the flag-staff are respectively  $60^\circ$  and  $45^\circ$ . Find the height of the flag staff and that of the tower.
8. A person observed the angle of elevation of a tower as  $30^\circ$ . He walked 50 m towards the foot of the tower along level ground and found the angle of elevation of the top of the tower as  $60^\circ$ . Find the height of the tower.
9. On the same side of a tower, two objects are located. When observed from the top of the tower, their angles of depression are  $45^\circ$  and  $60^\circ$ . If the height of the tower is 150 m, find the distance between the objects.
10. The angle of elevation of the top of the building from the foot of the tower is  $30^\circ$  and the angle of elevation of the top of the tower from the foot of the building is  $60^\circ$ . If the tower is 50 m high, find the height of the building.

## SCIENCE (086)

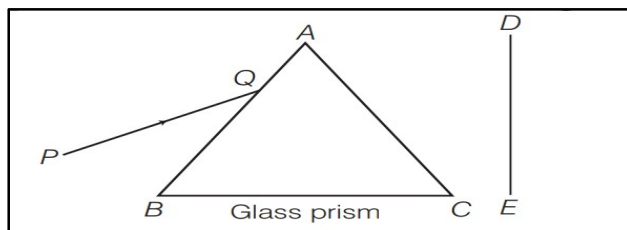
### PHYSICS

1. A 10 mm long awl pin is placed vertically in front of a concave mirror. A 5 mm long image of the awl pin is formed at 30 cm in front of the mirror. The focal length of this mirror is:
  - (a)  $-30\text{ cm}$
  - (b)  $-20\text{ cm}$
  - (c)  $-40\text{ cm}$
  - (d)  $-60\text{ cm}$
2. Refractive index of diamond with respect to glass is 1.6 and absolute refractive index of glass is 1.5. Find out the absolute refractive index of diamond.
3. Size of image of an object of a mirror having a focal length of 20 cm is observed to be reduced to  $\frac{1}{3}$ rd to its size. At what distance, the object has been placed from the mirror? What is the nature of the image and the mirror?
4. The figure given below shows a ray directed towards a lens MN.  
**Study the above diagram and answer the following questions:**



- (a) Name the lens.
- (b) What is line XY called?
- (c) The image of the object PQ is formed between which points.
- (d) Write the nature of the image

5. A narrow beam of white light is passing through a glass prism ABC as shown in the diagram. Trace it on your answer sheet and show the path of the emergent beam as observed on the screen DE.



- Write the name and cause of the phenomenon observed.
  - Where else in nature is this phenomenon observed?
  - Based on this observation state the conclusion which can be drawn about the constituents of white light.
6. Give reasons for the following
- Danger signals installed at airports and at the top of tall buildings are of red colour.
  - The sky appears dark to the passengers flying at very high altitudes.
  - The path of a beam of light passing through a colloidal solution is visible.
7. A person needs a lens of power  $-1.25$  D for the correction of his vision.
- What is the possible vision defect of the person?
  - What type of lens is required for correction of his vision?
  - What is the focal length of the corrective lens?
8. Water has refractive index 1.33 and alcohol has refractive index 1.36. Which of the two medium is optically denser? Give reason for your answer. (a) Draw a ray diagram to show the path of a ray of light passing obliquely from water to alcohol. (b) The absolute refractive index of diamond is 2.42 and the absolute refractive index of glass is 1.50. Find the refractive index of diamond with respect to glass.
9. How can you distinguish between a plane mirror, a concave mirror and a convex mirror without touching them?
10. Draw the graph that correctly represents relation between angle of incidence (i) and angle of reflection (r)?

## CHEMISTRY

### General Instructions:

- Revise the chapter 'Metals and Nonmetals' thoroughly before attempting following questions.
- Attempt these questions in class-work notebook.

### Objective Type Questions (MCQs)

- Which of the following is a property of metals?
  - They are brittle.
  - They do not conduct electricity.
  - They are malleable and ductile.
  - They are poor conductors of heat.
- Which of the following metals does not react with dilute acids to release hydrogen gas?
  - Iron
  - Zinc
  - Copper
  - Magnesium

### Fill in the Blanks

- In an electrovalent bond, the metal atom \_\_\_\_\_ electrons to form a positively charged ion.
- The process of extracting a metal from its ore is called \_\_\_\_\_.

### Subjective Questions

- Explain the formation of an electrovalent bond between sodium (Na) and chlorine (Cl).
- Describe the process of extraction of metals of middle reactivity.
- What are the chemical properties of metals when they react with water, and dilute acids?
- Compare the chemical properties of metals and non-metals when they react with oxygen. Give one example for each.
- Write the reaction of zinc (Zn) with hydrochloric acid (HCl) and state the gas evolved.
- Why are non-metals poor conductors of electricity? Explain with reference to the structure of non-metals.

### BIOLOGY

#### Multiple Choice Questions:

- Which of the following is not a function of gibberellins in plants?  
(a) Seed germination (b) Delayed leaf senescence  
(c) Breaking dormancy (d) Stimulating stem elongation
- Hormones are responsible for regulating the blood sugar level in the human body. Which of the following hormones are involved in this function?  
(a) Thyroxine (b) Insulin  
(c) Adrenaline (d) Growth Hormone
- Match the Column:  

Column A (Plant Hormone)	Column B (Function)
(a) Auxin	(i) Promotes fruit ripening
(b) Gibberellin	(ii) Promotes stem elongation and seed germination
(c) Ethylene	(iii) Stimulates cell elongation in shoots
(d) Absciscic Acid	(iv) Inhibits growth, promotes dormancy
- A person shows symptoms like high metabolic rate, weight loss, and irritability. Which gland and hormone are most likely involved?  
(a) Pituitary gland – Growth hormone (b) Thyroid gland – Thyroxine  
(c) Adrenal gland – Adrenaline (d) Pancreas – Insulin
- Which combination of plant hormones is most effective for breaking seed dormancy and initiating germination?  
(a) Auxin + Absciscic Acid (b) Gibberellin + Cytokinin  
(c) Cytokinin + Absciscic Acid (d) Gibberellin + Absciscic Acid
- What would happen if insulin is injected into a healthy person with normal blood glucose levels?  
(a) Their blood sugar would increase, causing hyperglycemia  
(b) Their blood sugar would drop, possibly leading to unconsciousness  
(c) Their body would destroy insulin before it acts  
(d) No change would occur since insulin only works in diabetics
- Which of the following pairs is incorrectly matched?  
(a) Absciscic acid – Inhibits growth and promotes dormancy  
(b) Cytokinin – Promotes cell division in plants  
(c) Gibberellin – Promotes fruit ripening

- (d) Auxin – Controls phototropism
8. A patient has a disease caused by the insufficient production of growth hormone. Which of the following symptoms is the patient most likely to exhibit?
- (a) Excessive height and gigantism (b) Stunted growth and dwarfism  
(c) Weight loss and muscle wastage (d) Increased blood sugar levels
9. Why is it important that the pancreas secretes glucagon along with insulin?
- (a) Glucagon helps lower blood glucose levels just like insulin  
(b) Glucagon has no role in blood sugar regulation  
(c) Glucagon raises blood glucose levels when they are low, balancing insulin's effect  
(d) Glucagon converts glucose into glycogen
10. Why do some seeds remain dormant even under favorable environmental conditions?
- (a) High levels of gibberellins prevent germination  
(b) High levels of abscisic acid maintain dormancy  
(c) Low levels of auxins cause dormancy  
(d) Ethylene gas prevents germination

**Assertion & Reasoning Based Questions:**

- (a) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of Assertion (A).  
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A).  
(c) Assertion (A) is true, but Reason (R) is false.  
(d) Assertion (A) is false, but Reason (R) is true.
1. Assertion (A): Cytokinins are growth-inhibiting plant hormones.  
Reason (R): Cytokinins promote cell division in plant tissues.
2. Assertion (A): Gibberellins inhibit plant growth.  
Reason (R): Gibberellins cause dormancy in buds and seeds.
3. Assertion (A): The pituitary gland is known as the master gland.  
Reason (R): The pituitary gland controls the secretion of hormones from other endocrine glands.
4. Assertion (A): Hydrotropism is movement in response to light.  
Reason (R): Roots grow towards water due to hydrotropism.
5. Assertion (A): Adrenaline increases heart rate and breathing during emergencies.  
Reason (R): Adrenaline prepares the body for 'fight or flight' situations.

**Short Answer Type Questions:**

1. A potted plant placed near a window bends toward the sunlight after a few days.
- (a) What type of movement is this?  
(b) Name the hormone involved and explains how it helps in this response.
2. During a drought, some plants close their stomata and slow down their growth.
- (a) Which plant hormone is responsible for this behavior?  
(b) Why is this useful for the plant?
3. A patient is found to have high levels of glucose in their blood. The doctor diagnoses that a specific gland is not functioning properly.
- (a) Which gland is likely affected, and which hormone is responsible?  
(b) What could be the result if this condition is not treated?

4. If the thyroid gland starts secreting thyroxine in excess, what symptoms might you observe in a person? Explain why.
5. In tissue culture labs, scientists use specific hormones to grow plant cells into complete plants.
  - (a) Name the plant hormones are commonly used for cell division and shoot/root formation?

### **Some Important Endocrine Glands, their Hormones, Principal Actions and Disorders**

Sl. No.	Endocrine Glands	Hormones Secreted	Principal Actions	Disorders	
				Undersecretion	Oversecretion
1.	<b>Pancreas</b>	- Insulin - Glucagon	- Lowers blood sugar level - Raises blood sugar level	- Diabetes mellitus	
2.	<b>Thyroid</b>	- Thyroxine	- Promotes tissue metabolism, growth and differentiation	- Simple goitre - Cretinism in children - Myxoedema in adults	Exophthalmic goitre
3.	<b>Adrenal Gland</b> (a) Adrenal Cortex (b) Adrenal medulla	Mineralocorticoids (aldosterone) - Glucocorticoids (cortisol, corticosterone) - Adrenocorticoids (sex hormones) - Adrenaline - Noradrenaline	Regulate sodium and potassium concentration in intra- and extracellular fluids - Regulate carbohydrate, fat and protein metabolism - Stimulate development of external sexual characters in males and females - Stimulate sympathetic nervous system	- Addison's disease	Cushing's syndrome  - Adrenal virilism
4.	<b>Pituitary</b> (a) Anterior Pituitary	- Growth hormone (GH or STH) - Prolactin (PRL) - Adrenocorticotrophic hormone (ACTH) - Thyroid stimulating hormone (TSH) - Follicle stimulating hormone (FSH) - Luteinizing hormone (LH)	- Normal body growth - Promotes lactation - Stimulates secretions from adrenal cortex - Stimulates thyroxine secretion - Growth of ovarian follicles & estrogen secretion (females), spermatogenesis (males) - Ovulation, maintenance of corpus luteum & secretion of progesterone (females); testosterone secretion (males)	- Dwarfism - Addison's disease, pigmentation in skin	Gigantism in childhood, Acromegaly in adulthood  - - -
	(b) Posterior Pituitary	- Vasopressin or Antidiuretic hormone (ADH) - Oxytocin	- Conservation of body water, contraction of blood vessels - Causes contraction of uterine muscles during childbirth	- Diabetes insipidus	Elevation of arterial blood pressure
	(c) Intermediate Pituitary	- Melanocyte stimulating hormone (MSH)	- Production of melanocytes		

## SOCIAL SCIENCE (087)

### Interdisciplinary Project:

Topics Covered:

History – Making of a Global World

Geography – Lifelines of National Economy

Economics – Globalization and the Indian Economy

### Project Question:

Globalisation has connected the world in new ways, but it has also affected people and economies differently. With reference to India, explain the impact of globalisation on local economies and different social groups. Discuss how transport (roadways and railways) acts as the lifeline of the economy, its contribution to national development, and the challenges it faces. Suggest innovative solutions for making transport and globalisation more inclusive and sustainable.

### Instructions for Students

1. Do the project on A4 sheets and arrange neatly in a transparent file.
2. Your project should include the following:
  - Title Page (Name, Class, Roll No., Project Title)
  - Introduction (what globalisation means)
  - Impact of Globalisation on local economies & social groups
  - Growth of MNCs and their role in India
  - Lifelines of National Economy: Roadways & Railways
  - Impact of transport on economy + challenges faced
  - Innovative solutions and suggestions
  - Conclusion
  - Bibliography/source of information
3. Use maps, diagrams, pictures, charts, flowcharts, posters, or cartoons to make your project attractive.  
**Note:** Students are encouraged to use their creativity (surveys, interviews, role-play ideas, visuals, posters, etc.) while preparing this project.

## ARTIFICIAL INTELLIGENCE (417)

1. A model is used to classify emails as spam or not spam. The confusion matrix is shown below:

	Predicted spam	Predicted not spam
Actual spam	40	10
Actual not spam	5	45

- (a) How many emails were correctly classified?
- (b) How many emails were wrongly classified?

2. In a medical test, a confusion matrix is:

	Predicted positive	Predicted negative
Actual positive	50	20
Actual negative	10	70

Find the number of true positives (tp), false negatives (fn), false positives (fp), And true negatives (tn).

3. Out of 80 exam papers:
- 40 were actually “pass,” 40 were actually “fail.”
  - The system predicted 35 pass correctly and 30 fail correctly.
  - The rest were wrong predictions.

Draw the confusion matrix.

4. Out of 100 test cases, a model predicted:
- 60 were correctly predicted as positive,
  - 25 were correctly predicted as negative,
  - 10 were wrongly predicted as positive,
  - 5 were wrongly predicted as negative.

Draw the confusion matrix for this situation.

5. A model has the following confusion matrix:

	Predicted positive	Predicted negative
Actual positive	30	20
Actual negative	15	35

- (a) How many total cases were tested?  
 (b) What is the number of false positives (fp)?  
 (c) What is the number of false negatives (fn)?

## INTRODUCTION TO FINANCIAL MARKETS (405)

1. Rohan has received ₹10,000 as a gift from his uncle. He wants to invest it for 3 years. Suggest him any two safe investment options and explain why they are suitable.
2. Priya is confused between investing in shares of a company and keeping her money in a fixed deposit. Help her compare both options on the basis of risk and return.
3. A 10th class student wants to start saving for higher studies by investing in mutual funds SIP. Explain how SIP works and how it is different from keeping money idle in a savings account.
4. A farmer is worried that the price of wheat might fall during harvest. Explain how he can use the futures market to protect himself.
5. Suppose an investor buys a call option for a company's share. After one month, the share price rises. Explain how the investor benefits in this situation.
6. An investor is confused between directly buying shares of a company and buying stock options. Help him understand the difference with an example.
7. Amit wants to buy shares of Reliance but does not want to hold physical share certificates. Explain how a demat account helps him.
8. Meena is facing difficulty in selling her shares quickly because they are in paper form. Suggest her a solution using the depository system.
9. Ravi lost his physical share certificates in a flood. Explain how holding securities in electronic form could have avoided his problem.
10. Infosys Ltd. is launching a new issue of shares for the first time. Through which market will it raise money? Explain with reason.
11. Riya wants to sell her existing shares of TCS to another investor. Which market will she approach and why?

12. Compare with examples: An investor buying shares in IPO vs. another investor trading the same company's shares on the stock exchange.

### PHYSICAL ACTIVITY TRAINERS (418)

1. Define Sport, game and play.
2. What is free play?
3. List three advantages and disadvantages of free play.
4. Explain how Infrastructure affects the selection of sports and equipment?
5. List three props which are used for marking purpose. Do to correction.

### INFORMATION TECHNOLOGY (402)

**Objective: Analyze data and automate tasks using advanced spreadsheet features.**

Scenario-based Activity: "Planning a Class Trip"

You are in charge of planning a class trip. You need to create a budget and see how different factors affect the total cost.

#### Step 1: Set up your Spreadsheet

1. Open LibreOffice Calc and create a new spreadsheet.
2. In Cell A1, type "Trip Budget."
3. In Column A, list the following budget items:
  - Transportation Cost (per person)
  - Accommodation Cost (per person)
  - Food Cost (per person, per day)
  - Number of Students
  - Number of Teachers
  - Number of Days
  - Total Cost
4. In Column B, enter some initial values for these items. For example:
  - Transportation: 800
  - Accommodation: 500
  - Food: 400
  - Number of Students: 40
  - Number of Teachers: 4
  - Number of Days: 2
5. In the "Total Cost" cell (B8), enter a formula to calculate the total cost:  $= (B2 * B6) + (B3 * B6) + (B4 * B6 * B7) + (B5 * B6)$  (Note: This formula assumes the costs are per person per day, except for transportation).

#### Step 2: Create Scenarios

Now, let's create two different scenarios to see how the total cost changes.

1. Select the cells you want to vary (the input values): B2 to B7.
2. Go to the menu: Tools > Scenarios...
3. A dialog box will appear. Create your first scenario:
  - Name: "Base Plan"
  - Comment: "This is our initial budget estimate."
  - Click OK.

4. Change the values in your spreadsheet to create a second scenario. For example, let's plan a more expensive trip:
  - Transportation: 750
  - Accommodation: 450
  - Food: 250
  - Number of Students: 35
  - Number of Teachers: 5
  - Number of Days: 3
5. Go to Tools > Scenarios... again.
6. Create the second scenario:
  - Name: "Extended Trip"
  - Comment: "This scenario is for a longer, more luxurious trip."
  - Click OK.

### Step 3: Analyze the Scenarios

You will see a small drop-down menu with a light gray border near the top of your spreadsheet. This is your Navigator for Scenarios.

1. Click on the drop-down menu. You will see "Base Plan" and "Extended Trip."
2. Select "Base Plan" to see your original budget. Note the total cost.
3. Select "Extended Trip" to see the total cost for the more expensive trip.
4. Answer the following questions:
  - What is the total cost for the Base Plan?
  - What is the total cost for the Extended Trip?
  - Which variable had the most significant impact on the total cost between the two scenarios?
  - Based on your analysis, which scenario would you present to your school principal, and why?

### Questionnaire

**Answer the following questions in a separate Word document or on paper:**

1. Explain the difference between a relative link and an absolute link when linking data.
2. Why would a business use the Goal Seek feature in a spreadsheet?
3. What is a macro, and why is it useful?

### Submission:

- Combine your all the above spreadsheet activity (take screenshot of each step), and questionnaire into a single stick file. You have to use Libre Office only.
- The file should have your Name, Class, Section and Roll Number on the front page of your file and submit the same to the concerned IT teacher. Keep a backup copy of the same with you.

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