NOTICE

Regarding XI std Final Practical Examination

In view of the current situation and Government notifications, the college has decided to conduct the final practical examination in the form of home assignments. Please follow the given instructions.

1. Answers are expected to be written on A4 size/ full-scape ruled sheets.
2. Date of submission of the assignments will be informed once the college re-opens.
3. Question papers are attached in the same pdf.
4. Path for XI EVS textbook/booklet is as follows
   iitianspace.com >> students >> downloads >> jr science>>announcement >> EVS BOOKLET.

Regards,

Principal,

PACE JUNIOR SCIENCE COLLEGE, NERUL
Answer the following questions in brief. (4 Marks each) (20)

1. What is the need of environmental education? Why environment awareness is necessary?

2. Explain Renewable and Nonrenewable resources in details.

3. Explain the causes of water degradation and suggest the control measure to overcome water scarcity problem.

4. What are the two conservation strategies of Biodiversity?

5. What are the values of Biodiversity? Describe each value.
Note: Use logarithmic table for calculation

Q.1) Diameter of a steel ball is measured using a vernier callipers which has divisions of 0.1 cm on its main scale (MS) and 10 divisions of its vernier scale (VS) match 9 divisions on the main scale. Three such measurements for a ball are given as:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>MS (cm)</th>
<th>VS divisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.5</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>0.5</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>0.5</td>
<td>6</td>
</tr>
</tbody>
</table>

(i) Determine the least count of the vernier calliper. Consider the zero error to be nil. 2
(ii) Write the observation table for the above mentioned measurements for the ball 2
(iii) Calculate the diameter of the steel ball and hence, find the surface area of the ball. 4
(iv) Write two precautions to be followed while taking reading by using Vernier calliper. 2

Q.2) (i) Determine the radius of curvature of convex surface. Using the formula;

\[ R = \frac{a^2}{6h} + \frac{h}{2} \]

Mean distance between legs, \( a = 4.0 \) cm,
Sagitta for convex surface, \( h = 0.235 \) cm
(ii) If the distance moved on the main scale is 1 cm for 10 rotations, determine the least count of spherometer. 5

Q.3) (i) The pitch of a screw gauge is 1 mm and there are 100 divisions on the circular scale. While measuring the diameter of a wire, the linear scale reads 1 mm and 47th division on the circular scale coincides with the reference line. The length of the wire is 5.6 cm. Find the curved surface area (in cm) of the wire in appropriate number of significant figures. 6
(ii) Define pitch of the screw. 2
(iii) What is backlash error 2
STD : XI  PRACTICAL EXAMINATION  CHEMISTRY  MARKS : 30

Q. 1. Quantitative Estimation (Volumetric analysis)  (20)

Determination of the Concentration in terms of Molarity of KMnO₄ by titrating it against a standard solution of F.A.S. (Mohr’s salt).

Q. 2. Answer the following Questions. (Viva base questions)  (10)

(i) What is Molarity?
(ii) Define Molality.
(iii) Write the name of Indicator used for Volumetric titration Experiment?
(iv) Define functional group.
(v) Write the Structure of Carboxylic Acid and Aldehyde functional group?
(vi) Convert 40°C to degree Fahrenheit.
(vii) Explain Pauli’s exclusion principle.
(viii) Write the Structure of 3-Hydroxy pentanoic acid.
(ix) What is Lewis Acid and Lewis base.
(X) Explain Rate of Reaction.

Instructions for Writing Chemistry Practical Paper.

Q. 1. Quantitative Estimation (Volumetric analysis).

Write Aim, Preparation of standard solution of M/20 Mohr’s salt, Observations, Reaction, Pilot Reading, Observation Table, Constant Burette Reading, Calculations and Result.

Student must have to write proper Reading in Observation Table and do calculations accordingly.

Note: PDF for writing Quantitative Estimation (Volumetric analysis) will be provided.

Q. 2. Answer the following Questions. (Viva base questions)

Each question carries 1 Mark. Student must have to write correct answer in answer sheet.

Students Must have to write their Name, Roll No and Batch Name on answer sheet.
1. If $2 \sin A = 1 = \sqrt{2} \cos B$ and $\frac{\pi}{2} < A < \pi$, $\frac{3\pi}{2} < B < 2\pi$, then find the value of

$$\frac{\tan A + \tan B}{\cos A - \cos B}$$

(5 marks)

2. Prove that $\sin 20^\circ \sin 40^\circ \sin 60^\circ \sin 80^\circ = \frac{3}{16}$

(5 marks)

3. Find the co–ordinates of the orthocentre of the triangle whose vertices are A(2,–2), B(1,1) & C(–1,0).

(5 marks)

4. If $S$ is the sum , $P$ is the product and $R$ the sum of reciprocals of $n$ terms of a G.P., then prove that $P^2 = \left(\frac{S}{R}\right)^n$

(5 marks)
Q.1 Attempt any one. (10 marks)

A. Write html code to create a web page with, following specifications.

1. Image of any scientist with an alternate text as his name.

2. Create a paragraph related to information of that scientist.

3. Create a table of his/her inventions.

OR

B. Write html code to create a form on webpage with following specifications.

1. Display heading 'application form' in highest heading with center alignment.

2. Accept name, standard 11th or 12th with only one selection choice.

3. Submit the form.

Q.2 Attempt any one. (10 marks)

A. Write a JavaScript program to accept two integers and display larger number of them.

OR

B. Write a JavaScript program to accept number and display square of it.
Q. No. 1. Identify following five specimens and write correct 4 descriptive points.

10 Marks

SPOT – A

SPOT – B

SPOT – C

SPOT – D

SPOT – E

Q. No. 2. Identify following five stages of Meiotic cell division and write correct 4 descriptive points.

10 Marks

SPOT – F

SPOT – G

SPOT – H

SPOT – I

SPOT – J

Q. No. 3. Chart Preparation as per allotted topics.

10 Marks
Write the code for the following:

1. Write a program in C++ to accept 10 integers in an array and find its sum and average.  
   10 M

2. Write a C++ function program to find surface area of a sphere (Hint: surface area of sphere = \(4 \times 3.14 \times r \times r\)).  
   10 M

3. Write a program in C++ to accept two integers and find its G.C.D.  
   10 M

4. Write a program in C++ to find factorial of a number.  
   10 M

5. Write a program in C++ to find a number whether the given number is palindrome or not.  
   10 M