GARRISON ACADEMY FOR CAMBRIDGE STUDIES,
LAHORE CANTT

SUMMER VACATION HOMEWORK 2018 (Class O'I)

Dear Student

Please Note
      Fee Bill
1. Please make sure to get the fee bill for June till August 2018 from your class teacher for timely deposit in the bank.
2. In case the fee bill is misplaced, you can get a copy from the Fee Clerk during office hours. GACS office will remain open during Summer Vacation.
      Summer Vacation Homework
3. Summer Vacation will commence from 28th May 2018.
4. Use punched pages for your homework.
5. Homework will be checked and marked by the teachers.
6. Good effort will be rewarded.
      Regular Classes for O'I
7. GACS will reopen on 7th August 2018.

Enjoy your vacation.

Principal
(Dr. Rubeena Anjum)

URDU (SUBJECT CODE: 3248)
نصابی کتاب: اُردواولیول، سلیبس بی، از: شازیہ اسلام
درج ذیل موضوعات پر ۱۵۰ تا ۲۰۰ الفاظ پر مشتمل مضامین لکھیں۔
۱. ہم نصابی سرگرمیوں کی اہمیت ۲. شجر کاری ۳. ایک تاریخی مقام کی سیر
خطوط نویسی: خطوط کے موضوعات برائے مشق سے خط نمبر ا سے ۵ تک لکھیں۔
مکالمہ نگاری: مکالمہ کے موضوعات برائے مشق سے مکالمہ نمبر ا سے ۵ تک لکھیں۔
محاورات: حروف تہجی "آ" سے "پ" تک محاورات کے جملے لکھیں۔
انگریزی سے اُردو ترجمہ: پیراگراف نمبر ا سے ۵ تک بامحاورہ ترجمہ لکھیں۔
ذخیرہ الفاظ: ذخیرہ الفاظ میں اضافہ کے لیے ادبی کتب اور اُردو اخبارات کا مطالعہ کریں۔

ISLAMIAT (SUBJECT CODE: 2058)

1. Learn and revise all the work done in classroom.
2. Attempt the following questions from the Prophet's (PBUH) Life in Makkah :
    (i) Write about the life of the Prophet (PBUH) up until the first revelation.
    (ii) Give an account of the way in which the Prophet (PBUM) started to preach Islam in the first few years after he received the first revelation.
    (iii) Describe the events of the Prophet's (PBUH) visit to Taif.
    (iv) Give an account of the events surrounding the pledges of Aqaba and the main details in them.

PAKISTAN STUDIES (SUBJECT CODE: 2059)

History: Revise all the work done in the classroom. Attempt you answer with reference to the mark scheme.

Q: How successful was British expansion in the subcontinent (1750 to 1850)?   [14]

Geography: Practical Assignment (must be done)

1.   Label the following on the outline map of Pakistan:
   - the tropic of cancer, latitudes 30^0 N, 36^0 N, longitudes 64^0 E, 70^0 E and 76^0 E
   - the Arabian sea
   - the countries sharing a border with Pakistan, and its position in relation to others in South and Central Asia
   - the provinces, Northern Area and FATA
   - named cities: Islamabad, Rawalpindi, Gujranwala, Lahore, Faisalabad, Multan, Sialkot, Peshawar, Chitral, Gilgit, Hyderabad, Karachi, Quetta and Gwadar
   - named landforms: Balochistan Plateau, Sulaiman Range, Safed Koh, Potwar Plateau, Salt Range, Hindu Kush, Karakoram and Himalaya Mountain Ranges
   - named rivers: Indus, Jhelum, Chenab, Ravi, Sutlej, Kabul, Hab, Dasht
   - named deserts: Thar, Thal, Kharan

2.   Collect information about plateaus of Pakistan and support you effort with pictures.

ENGLISH (SUBJECT CODE: 1123)

Write creative essay on the following topics :-

Descriptive

1. Describe the most embarrassing moment that you have ever experienced.

Argument

2. Do you that that junk food should be banned at school? Give examples and reasons to support your view.

3. Do you think that the first impression of a person is always right? Give reasons and examples to support your view.

Narrative

4. Write a story which includes the sentence, "You want me to lead the group but I don't think I have the right qualities."

5. Write a story about someone whose personality changed completely as the result of an accident.

Suggested books for reading :-
   - Harry Potter and the cursed child by J.K. Rowling
   - The Hobbit (Middle Earth Universe) by J.R.R Tolkien
   - Steve Jobs: The Man Who thought different by Karen Blumenthal

Write movie reviews on the following movies
   - Maleficent
   - Macbeth
   - The Pianist

MATHEMATICS (SUBJECT CODE: 4024)

[Book I: New Syllabus Oxford Mathematics 6th Edition]

Factors and Multiples
        Ex 1a (Pg 6) from Qs 1 to 11 (Q7 exempted), Ex 1b (Pg 10), Q2

HCF and LCM
        Ex 1c (all questions) Pg 13, Ex 1d (all questions) Pg 16

Squares and Square Roots, Cubes and Cube Roots
        Ex 1e (all questions) Pg 20

Integers
        Ex 2a Pg 34, Ex 2b from Qs 1 to 3 Pg 38, Ex 2c Pg 41

Rational Numbers

Ex 3a Pg 55, Ex 3b Pg 56
Accuracy and Significant Figures
Ex 4c Pg 83
Problem Solving with Algebra
Ex 7h Pg 157

Questions from Past Papers :-
Nov 2011 Paper 1: Q 1, Q19, Q 23
Nov 2011 Paper 2: Q1
June 2012 Paper 1: Q5, Q9, Q11, Q25
Nov 2012 Paper 1: Q2, Q7, Q12, Q15
Nov 2012 Paper 2: Q2

[Book II New Syllabus Oxford Mathematics 6th Edition]
Revision of Chapter 2
Direct and Inverse Proportion: all previously done exercises
Scales and Maps: Ex 1c, Qs 6 to 22
Volume and Surface Area of Pyramid: Ex 7a
Changing Subject of the Formula: Ex 4i, 4j, 4k

ADDITIONAL MATHEMATICS (SUBJECT CODE: 4037)

Reference Book: Topical Additional Mathematics

Chapter 2: Simultaneous Equation
Complete Chapter
Chapter 3: Indices and Log
Ex 3.1 and 3.2

PHYSICS (SUBJECT CODE: 5054)

Excersie 1

- A car increases its velocity from 10 m/s to 20 m/s in 5 s. What is its acceleration?

- A runner has an acceleration of 10 m/s². How long does it take him to reach a speed of 5 m/s from rest? (Note 'rest' means zero velocity.)

- A train accelerates at 9 m/s² for 5 s. If its initial velocity is 5 m/s, what is its final velocity?

- Palm trees are growing every 25 m alongside the highway in a holiday resort.
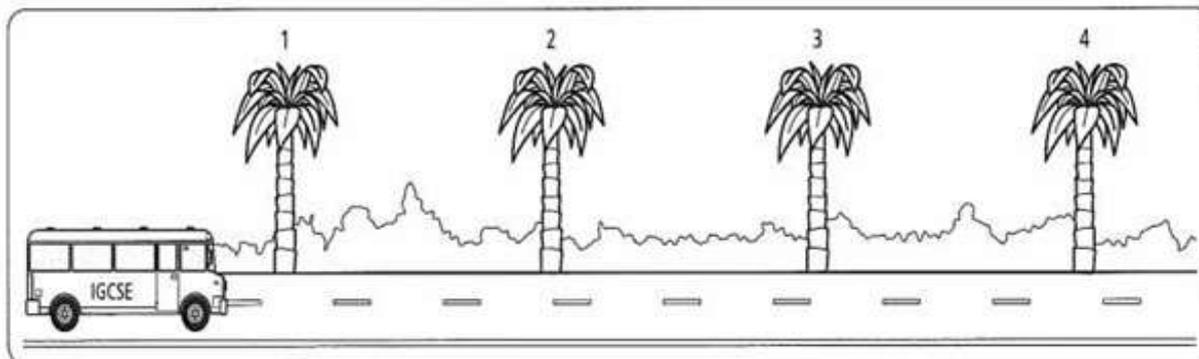
The IGCSE school bus drives along the highway.
a. It takes 2 s for the bus to travel between palm tree 1 and palm tree 2.
   Calculate the average speed of the bus between tree 1 and tree 2.
b. It takes more than 2s for the bus to travel from tree 2 to tree 3.
   State what this information indicates about the speed of the bus.

Exercise2

Write the following quantities in standard form:

a) Radius of the Earth = 6,370,000 m = _____
b) Mass of electron = 0.000 000 000 000 000 000 000 000 000 911 kg = _____
c) Speed of light in vacuum = 300,000,000 m/s = _____

Express quantities using prefixes

Prefix is used to simplify the expression of very big or very small numerical values of physical quantities.

Fill in the blank of the table list of prefixes below:

Prefix	Value	Standard form
Tera	1,000,000,000,000	
Giga	1,000,000,000	
Mega	1,000,000	
Kilo	1,000	
Hecto	100	
Deca	10	
Deci	0.1	
Mili	0.001	
Nano	0.000 000 001	
Pico	0.000 000 000 001	

Exercise3

Convert the following to standard form:

a) 93 nm = _____ m   c) 0.8 mg = _____ kg
b) 120 MJ = _____ J   d) 59µs = _____ s

Exercise4

Convert the measurement into SI unit and in standard form:

a) Radio Caringin Frequency of radio wave is 101.4 MHz = _____
b) Distance between the moon and the Earth is 383,000 km = _____
c) Mass of the Earth is 60 000 000 000 000 000 000 000 000 g = _____
d) The wavelength of a visible light is 0.00042 mm = _____

Exercise5

The Body Mass Index (BMI) of a person is measured by taking the mass of the person divided by the square of his/her height. Use the information provided to work out the derived SI unit for BMI.

Exercise 6

- A stopwatch is used to time a race. The diagrams show the watch at the start and at the end of the race.

start   end

How long did the race take?

A   45.7 s   B   46.0 s   C   46.5 s   D   47.0 s

- A student decides to measure the period of a pendulum (the period is the time taken for one complete swing). Using a stopwatch, he finds that 8 complete swings take 7.4 seconds. With his calculator, he then uses this data to work out the time for one swing. The number shown on his calculator is 0.925.

  a. Is it acceptable for the student to claim that the period of the pendulum is 0.925 seconds? Explain your answer. [2]

  b. How could the student measure the period more accurately? [2]

  c. Later, another student finds that 100 complete swings take 92.8 seconds. From these measurements, what is the period of the pendulum? [2]

Note: Solve TOPICAL past papers of chapter "Kinematics" and "Physical Quantities, Units and Measurements".

Note: Solve all MCQs and Structured questions relevant to the units studied from book and past papers.
Prepare one theme based physics project.

CHEMISTRY (SUBJECT CODE: 5070)

Experimental Chemistry

Q1.   Draw and label diagrams:
    (a) burette   (b) pipette   (c) titration flask

Q2.   Draw and label diagram for the collection of the following types of gases:-
    (a)   Gas lighter than air
    (b)   Gas heavier than air
    (c)   Collection of gas on water

Particles of Matter

Q1.   (a)   Define the following terms:-
             Boiling Point, Melting Point, Evaporation, Sublimation, Condensation, Solidification
      (b)   Draw heating and cooling curves for water

Q2.   (a)   Define Diffusion?
      (b)   What are the factors which affects rate of diffusion?
      (c)   Sample of the gases carbondioxide CO_2 Mr=44 and Hydrogen Mr=2 are at the same temperature. Compare the speeds of molecules in these gases.
      (d)   Give any three examples of diffusion from everyday life.

Q3.   Describe the properties of solid, liquid and gases according to kinetic theory.

Note:
- Solve all structured questions from (topical pure Chemistry) relevant to the units mentioned above.
- **Prepare one theme based Chemistry science model along with scheme of study i.e.**
  (1) Electronic configuration
  (2) Separation of mixtures
  (3) Arrangement of particles in solid, liquid and gas

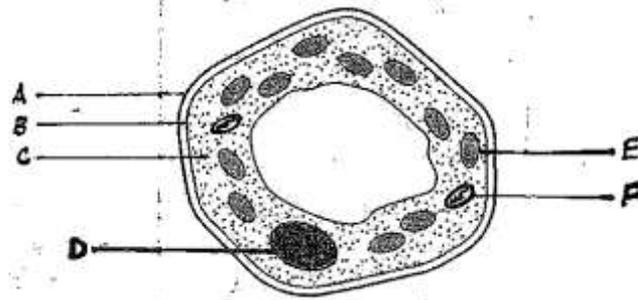Q1.   Fig 1 shows a cell observed under the microscope

Fig 1

    a.   Where is this cell found?
    b.   Label the parts A, B and C.
    c.   'E' contains a pigment. What is the pigment and explain its function?
    d.   What is structure 'F' meant for?
    e.   Which component contain DNA?

Q2.   For each of the following, describe how the structure is related to its function:-
    a.   Root hair cell
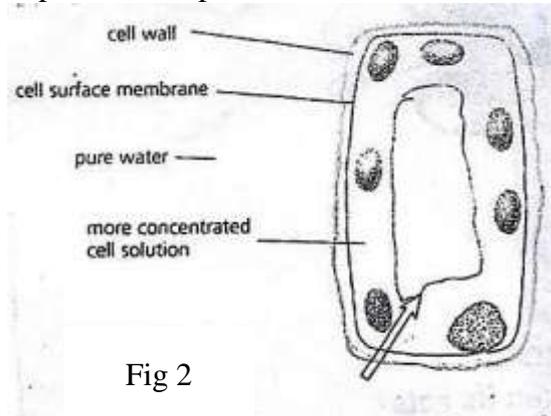   b.   Red blood cell

Q3.   A plant cell in pure water   A plant cell in concentrated solution

Fig 2   Fig 3
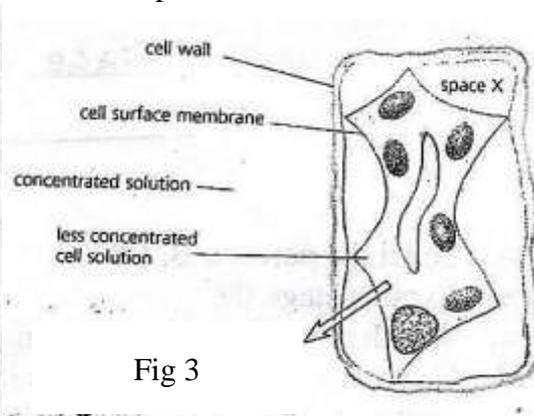
    a.   How can plasmolysis be brought about?
    b.   In Fig 3, what fills space X? Explain your answer.
    c.   Describe the events shown in Fig 2 and 3 in terms of water potential.

Q4.   An uncooked potato was peeled. A piece form the middle was cut into strips X and Y, each
       500mm long. One strip was placed in a strong sugar solution. Another strip was placed in
   pure water.
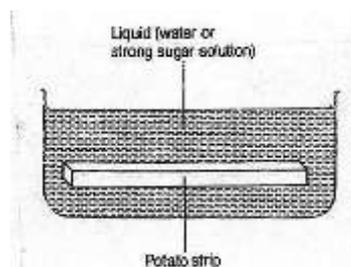
    After 30 minutes strip X had grown longer. Strip Y had shrunk.

    a.   What could have happened to the cells in each strip, to make one strip swell and the
         other shrink?
    b.   Which strip had been placed in the sugar solution? Explain your answer.
    c.   The experiment was repeated using strips of cooked potato. These strips did not change
         in length. Can you explain why?

d. If you had some sugar solution which was exactly the same osmotic pressure of a potato cell and you placed a potato strip in it how, if at all, would it change?

e. Design an experiment using potato strips to produce a sugar solution with the same osmotic pressure as a potato cell. List your apparatus, and described your method in full detail.

Q5. The drawn diagram illustrates "Lock and key hypothesis", with reference to that

Stage-I
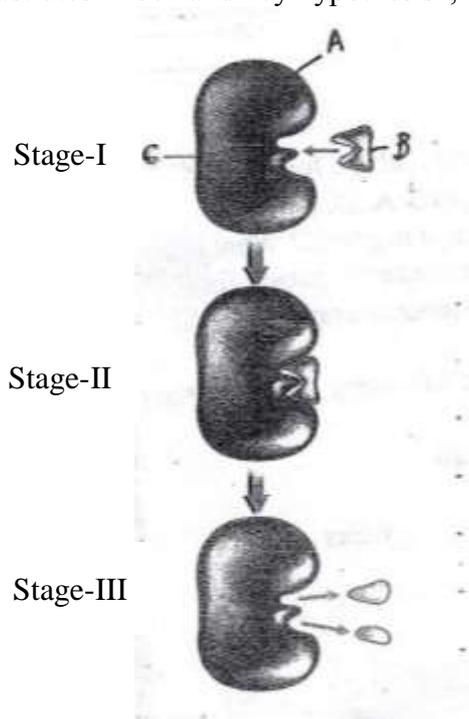
Stage-II

Stage-III

a. Label the parts A, B, C?
b. Explain stage II?
c. Which type of reaction is taking place in this diagram?
d. Name any of the enzyme with its substrate on which its acts?

Q6. The effect of temperature on the rate of reaction of amylase with starch is investigated, Explain

Test tube (contents and temperature conditions)	Observations	Deduction
A1 $4cm^3$ of 1% starch solution + $2cm^3$ of saliva solution at 10^0 C		
B1 $4cm^3$ of 1% starch solution + $2cm^3$ of saliva solution at 30^0 C		
C1 $4cm^3$ of 1% starch solution + $2cm^3$ of saliva solution at 50^0 C		
D1 $4cm^3$ of 1% starch solution + $2cm^3$ of saliva solution at 70^0 C		
E $4cm^3$ of 1% starch solution + $2cm^3$ of boiled saliva solution at 30^0 C		

COMPUTER SCIENCE (2210)

1. Convert the following into given base:
    a. $(11100101)_2 = (\ ?\ )_{10}$
    b. $(11111111)_2 = (\ ?\ )_{10}$
    c. $(1100110010001011)_2 = (\ ?\ )_{16}$
    d. $(111001000011)_2 = (\ ?\ )_{16}$
    e. $(81)_{10} = (\ ?\ )_2$
    f. $(29)_{10} = (\ ?\ )_2$
    g. $(437)_{10} = (\ ?\ )_{16}$
    h. $(151)_{10} = (\ ?\ )_{16}$
    i. $(F015)_{16} = (\ ?\ )_2$
    j. $(2C3)_{16} = (\ ?\ )_2$
    k. $(5A00)_{16} = (\ ?\ )_{10}$
    l. $(78D)_{16} = (\ ?\ )_{10}$
2. Write the names of any five input and any five output devices.
3. Write the use/application of MICR, OCR, OMR and Barcode reader.
4. What is a touch screen technology? Differentiate between different types of touch screen technology?
5. Draw logic gate representation and truth table for each logic gate. (Ch No 3)

PRINCIPLE OF ACCOUNTS (SUBJECT CODE: 7110)

Chapter 1	:	Review Question No (1.2, 1.4, 1.7, 1.9, 1.12 and 1.14
Chapter 2	:	Review Question No 2.1, 2.3, 2.5
Chapter 3	:	Review Question No 3.4, 3.6

BUSINESS STUDIES (SUBJECT CODE: 7115)

Chapter 1	:	Activity 1.1, 1.3 (Pg 6, 9), Exam style questions Q2 (PG 10), Write down all important definitions
Chapter 2	:	Write down all important definitions
Chapter 3	:	Write down all important definitions Case Study : Tata grows through take overs

ECONOMICS (SUBJECT CODE: 2281)

Chapter 1 and 2 (Write down all important definitions)
Exam preparation questions : 1.1, 2.1,
Structure questions: Unit 1.1 Q No 3

Websites for Reference: Logon to the websites for updates:-

- www.cambridgeinternational.org
- www.xtremepapers.com
- www.cambridgestudents.org.uk
- www.gacs.lges.edu.pk
- www.facebook.com/gacs.lges