



ANEES HUSSAIN COACHING CLASSES

EXCELLENCE IN EDUCATION SINCE 1989

COMPREHENSIVE EXAMINATION 2025-2026

ENGLISH H.S.C. PART-I (PRE. ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 20

Time: 20 Minutes

SECTION 'A' (MULTIPLE CHOICE QUESTIONS)

- NOTE:**
- This section consists of 20 part questions and all are to be answered. Each part question carries one mark.
 - Do not copy the part questions in your answerbook. Write only the answer in full against the proper number of the question and its part.

Q. 1: Choose the correct answer for each from the given options:

- The word 'reconnoitering' used in the play 'A Visit to a Small Planet' means:
*research *thesis *survey *project
- Kreton intends to take charge of the:
*rose garden *Spelding's house *America *World
- General Powers considers Kreton to be a/an:
*beast *ghost *actor *spy
- Scene I & III of the play "A Visit to a 'Small Planet' are set in this room:
*bed *dinning *living *study
- This character has the most curious nature:
*Ellen *Mrs. Spelding *John Randolph *Aide
- The suffix 'less' in *hopeless* means:
* full of * without * again * before
- The prefix 'dis' in the word 'disbelieve' means:
* again * same * not * very
- In the sentence 'I worked for ten hours yesterday.' The underlined verb is:
* intransitive * transitive * auxiliary * modal
- In the sentence 'He delivered presentation.' The underlined verb is:
* transitive * intransitive * auxiliary * modal
- Identify the verb that is not regular:
* go * walk * jump * talk
- The word 'Yankee' means a native:
*African *European *American *Canadian
- E-learning can only be possible through:
*radio *TV *internet *portals
- E.B. White used to go to the lake in Maine in this season:
*spring *summer *fall *winter
- When Mathilde had to return the necklace, she was looking as:
*peasant *rich *proud *miser
- Job is this type of strategy:
*short term *medium *long term *adjustable
- 'Success is failure turned inside out.' This line is taken from the poem:
*Ozymandias *Don't Quit *Lucy Gray *Good Timber
- "I met a traveler from an antique land." The antique land referred here is:
*Rome *Greece *Egypt *Persia
- 'And sings a solitary song', is an example of this poetic device:
*irony *simile *metaphor *alliteration
- "This is the common law of.....(complete the last line of Good Timber)
*existence *life *nature *survival
- The number of lines in a sonnet is:
*10 *12 *14 *16

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Max. Marks: 80

Time: 2 hour 40 Minutes

SECTION 'B'

(40 Marks)

(SHORT-ANSWER QUESTIONS)

NOTE: Attempt Six part-questions from Section B-I and Four part-questions from Section B-II. All part-questions carry equal marks.

Q. 2:

SECTION B – I (READING COMPREHENSION, POETRY AND PLAY)

- What is the poet's message in the first stanza of the poem 'Don't Quit'?
- What happens to those who work hard according to Douglas Malloch?
- How is media depicted in the play "A Visit to a Small Planet?"
- Why is General Powers paranoid about the Kreton's visit?
- What extraordinary powers does Kreton possess, and how does he exhibit these powers?
- What was the Quaid's vision about religious freedom?
- What does Emerson mean by self-reliance?
- How had Mme. Loisel's sacrifices been in vain?
- What are the benefits of E-commerce in today's world?
- What irony has been presented in the poem 'Ozymandias'?

SECTION B – II (GRAMMAR)

x) Proofread the following passage and rewrite it..

Last sunday my cousin came to my hous he bringed mangoes apples bananas and graps for us we were very happy because we likes fruits very much after lunch we played cricket football and hide and sick in the gardan my mother said if you brake the window you will be punished but we didnt lisen to her.

xii) Insert the correct modal verb:

- Youobey the regulations of the university. (Obligation)
-I enter the room, Sir? (Permission)
- Hefinish the project quickly because he is skilled. (Ability)
- You show respect to your seniors. (Advice)

xiii) Change the narration:

- Raheel said to his sister, "Please lend me your book."
- The principal said to the pupils, "keep mobile phones off during the lecture".
- She said, "Ugh! The soup is way too salty."
- Sajid said to them, "What will you do during your vacations this time?"

xiv) Fill in the blanks with the appropriate word from the box:

influence, impact, consequences, effect

- The innovative advertising plan will have a strong..... on revenue numbers.
- The poet's verses display theof ancient epics.
- The new drug created an unexpected on the patient's health.
- Disregarding safety guidelines can lead to seriousfor the employees.

xv) Do as directed:

- Are they conducting the conference? (Change the voice)
- If I were the captain of Pakistan Cricket team, (Complete the sentence)
- He goes for a jog. (Put the adverb 'sometimes')
- She felt exhausted. She kept working.(Make a compound sentence)

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SECTION 'C'

(DETAILED-ANSWER QUESTIONS)



(40 Marks)

Note: Answer all questions from this section. All questions carry equal marks.

Q3: Compose a covering letter and CV for the post of English teacher. (10)

Q4: Write an essay to compare and contrast on any ONE of the following: (10)

- a) City Life VS Village Life
- b) New method of communication VS Old method of Communication
- c) Physical Games v/s Online games
- d) Personal Business v/s Employment

Q5: Write a formal report on the facilities provided by the College Administration for your college magazine. (10)

OR

Compose a narrative account about a 'My First Day at College'

Q6: SEEN COMPREHENSION:

Read the following passage and answer the questions that follow: (10)

OR

Make a précis of the passage and suggest a suitable title to it.

The first thing you should do while choosing a career is to make sure it interests you something which brings you satisfaction and happiness. You will be more successful, fulfilled, and productive if you are enthusiastic about your chosen path. If you feel you are passionate about science or fashion designing or literature or astronomy or business, then opt for it without caring what others choose. Many students choose a particular field based on prevailing social trends, the insistence of family, peer pressure, or lack of information about other choices, not because of their genuine interest in that field. Ultimately, after some time, they find no motivation to continue. In the long run, this lack of motivation leads to dissatisfaction and negative emotional experience. Every field offers potential growth, success, and satisfaction if you excel in it by putting your heart and soul into it.

- a. Identify the title of the given passage.
- b. Why should you choose a career that interests you?
- c. Identify regular and irregular verbs:
* choose * feel * offer
- d. Classify the word classes of the following words:
* while * dissatisfaction * potential

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وقت: ۲۰ منٹ

کل نشانات: ۲۰

حصہ "الف" (کثیر الانتخابی سوالات)

نوٹ: (۱) اس حصہ میں بیس جزوی سوالات ہیں۔ تمام سوالات کے جوابات مطلوب ہیں اور ہر ایک سوال کا ایک نمبر ہے۔

(۲) سوال یا اس کا جزا امتحانی کاپی میں نقل نہ کیجئے۔ سوال کے اصل نمبر اور جز کے سامنے مکمل جواب تحریر کیجئے۔

سوال نمبر ۱: درست جواب کا انتخاب کر کے اپنی جوابی کاپی میں لکھیے:

(۲۰)

۱. شامل نصاب سبق "قومی اتفاق" کے مصنف ہیں:

☆ سر سید احمد خان ☆ مولانا الطاف حسین حالی ☆ خواجہ حسن نظامی ☆ آغا حشر کاشمیری

۲. سبق "تھر کی ناد یہ کما نچی" کا ماخذ ہے:

☆ کلیات نثر حالی - جلد اول ☆ مرآة العروس ☆ آب حیات ☆ سندھ بہتارہا

۳. سبق "میدان جنگ" کے مصنف کا نام ہے:

☆ سر سید احمد خان ☆ مولانا الطاف حسین حالی ☆ آغا حشر کاشمیری ☆ منشی پریم چند

۴. نظم "داستان تیاری میں باغ کی" کے شاعر کا نام ہے:

☆ میر حسن ☆ نظیر اکبر آبادی ☆ جوش ملیح آبادی ☆ احسان دانش

۵. "خواجہ میر درد کا ادبی مقام ہے:

☆ خدائے سخن ☆ تصوف کا امام ☆ شاعر شباب ☆ نجم الدولہ

۶. "مرزا نوشہ" مرزا غالب کی ہے:

☆ قومیت ☆ کنیت ☆ معرفت ☆ تخلص

۷. "العروۃ القوۃ لثقی" سے مراد ہے:

☆ اُنوت ☆ اتحاد ☆ تنظیم ☆ توحید

۸. ساقی جاوید ان کا قلمی نام ہے:

☆ محمد جاوید ☆ پریم چند ☆ سید شوکت علی ☆ موتی لعل

۹. "رہے نام اللہ کا" ان کی تحریر کردہ ہے:

☆ پروین شاکر ☆ نظیر اکبر آبادی ☆ جوش ملیح آبادی ☆ احسان دانش

۱۰. امتیاز علی تاج کے شامل نصاب سبق کی صنف نثر ہے:

☆ داستان ☆ افسانہ ☆ ڈرامہ ☆ ناول

۱۱. افسانہ زیور کا ڈبہ میں زیور کی مالیت تھی:

☆ چار ہزار روپے ☆ پانچ ہزار روپے ☆ سات ہزار روپے ☆ چھ ہزار روپے

۱۲. نصاب میں شامل نعت کے شاعر ہیں:

☆ پروین شاکر ☆ اقبال عظیم ☆ جوش ملیح آبادی ☆ احسان دانش

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۱۳. ہنس نامہ اور آدمی نامہ ان کے قلم کا شاہکار ہیں:
- ☆ نظیر اکبر آبادی ☆ رئیس امر وہوی ☆ جوش سلیخ آبادی ☆ احسان دانش
۱۴. نصاب میں شامل تن با تقدیر قطعہ ان کی تخلیق ہے:
- ☆ صادق دہلوی ☆ رئیس امر وہوی ☆ امجد حیدر آبادی ☆ علامہ اقبال
۱۵. دہلوی تاج دار کے کنبے کا فسانہ اس عنوان سے شامل نصاب ہے:
- ☆ زبان گویا ☆ خواہ مخواہ کی لڑائی ☆ فاتحے میں روزہ ☆ بیگم کی بلی
۱۶. سبق "خواہ مخواہ کی لڑائی" کا ماخذ ہے:
- ☆ بیگمات کے آنسو ☆ شہزادی کی پیتا ☆ لاہوریات ☆ پرواز
۱۷. شاعر درد و غم ان کا لقب تھا:
- ☆ میر درد ☆ مرزا غالب ☆ میر تقی میر ☆ علامہ اقبال
۱۸. رباعی میں مصرعوں کی تعداد ہوتی ہے:
- ☆ تین ☆ چار ☆ پانچ ☆ چھ
۱۹. لفظ آغاز اور انجام میں صنعت ہے:
- ☆ مبالغہ ☆ تعلیل ☆ تضاد ☆ تشبیہ
۲۰. احمد فراز کا اصل نام تھا:
- ☆ سید احمد شاہ ☆ سید طاہر شاہ ☆ سید فراز شاہ ☆ سید فیروز شاہ

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وقت: ۲ گھنٹے ۲۰ منٹ

کل نشانات: ۸۰

کل نشانات: ۲۰

حصہ ”ب“ (مختصر جواب کے سوالات)

(۱۰)

سوال نمبر ۲: دیئے گئے اشعار میں سے کسی دو اشعار کی تشریح شاعر کے حوالے اور مختصر تعارف کے ساتھ تحریر کیجئے۔

سن تو سہی جہاں میں ہے تیرا فسانہ کیا
کہتی ہے تجھ کو خلقِ خدا غائبانہ کیا
بستے ہیں تیرے سائے میں سب شیخ و برہمن
آباد ہے تجھ سے ہی تو گھر دیر و حرم کا

قیدِ حیات و بندِ غم، اصل میں دونوں ایک ہیں
موت سے پہلے آدمی غم سے نجات پائے کیوں
کیا کہیں کتنے مراسم تھے ہمارے اس سے
وہ جو ایک شخص ہے منہ پھیر کے جانے والا
اسی سے دور رہا اصل مدعا جو تھا
گئی یہ عمر عزیز آہ! رائیگاں میری

(۲)

سوال نمبر ۳: (الف) منتخب کردہ اقتباس کے سبق اور مصنف کا نام تحریر کیجئے۔

(۸)

(ب) مندرجہ ذیل میں سے کسی ایک اقتباس کی تشریح کیجئے۔

(۱) انسان جب اپنی ہستی پر نظر ڈالے گا تو اپنے میں دو حصے پائے گا۔ ایک حصہ خدا کا اور ایک حصہ اپنا جس کا انسان کا دل یا اس کا اعتقاد یا مختصر سے الفاظ میں یوں کہو کہ اس کا مذہب خدا کا حصہ ہے جس میں دوسرا کوئی شریک نہیں۔ اس کے عقائد کی جو کچھ بھلائی یا برائی ہو اس کا معاملہ اسکے خدا کے ساتھ ہے۔ نہ بھائی اس میں شریک ہے، نہ بیٹا۔

(۲) راستی تیرا جوہر ہے اور آزادی تیرا زیور۔ دیکھ اس جوہر کو بر باد نہ کر اور اس زیور کو زنگ نہ لگا۔ تو دل کی امین ہے اور روح کی اپنی۔ دیکھ دل کی امانت میں خیانت نہ کر اور روح کے پیغام پر حاشیہ نہ چڑھا۔

(۳) شہر چپ چاپ، نہ کہیں پھاوڑا بجاتا ہے، نہ سرنگ لگا کر کوئی مکان اڑایا جاتا ہے، نہ آہنی سڑک آتی ہے، نہ کہیں دمدمہ بنتا ہے۔ دلی شہر خوشاں ہے۔ کاغذ نہڑ گیا ورنہ تمھارے دل کی خوشی کے واسطے ابھی اور لکھتا۔

(۲)

سوال نمبر ۴: (الف) نظم کے شاعر کا مختصر تعارف تحریر کیجئے۔

(۸)

(ب) مندرجہ ذیل میں سے کسی ایک نظم کا مرکزی خیال تحریر کیجئے۔

☆ رہے نام اللہ کا ☆ مردِ مسلمان ☆ نوائے سروش

یا

(۲)

(الف) تشریح کردہ بند کے شاعر اور نظم کا نام تحریر کیجئے۔

(۸)

(ب) مندرجہ ذیل بند کی تشریح کیجئے۔

اس قرآن میں ہے اب ترک جہاں کی تعلیم
جس نے مومن کو بنایا مہ و پرویں کا امیر
تن با تقدیر ہے آج ان کے عمل کا انداز
تھی نہاں جن کے ارادوں میں خدا کی تقدیر
تھا جو نا خوب، بہ تدریج وہی خوب ہوا
کہ غلامی میں بدل جاتا ہے قوموں کا ضمیر

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(۲)

سوال نمبر ۵: (الف) منتخب کردہ سبق کے مصنف کا مختصر تعارف تحریر کیجیے۔

(۸)

(ب) مندرجہ ذیل میں سے کسی ایک سبق کا خلاصہ تحریر کیجیے۔

☆ بیگم کی بلی

☆ زیور کا ڈبہ

☆ فاتے میں روزہ

-یا-

مندرجہ ذیل مشقی سوالات میں سے کسی پانچ کے مختصر جوابات تحریر کیجیے:

۱. کس بات سے ظاہر ہوتا ہے کہ ٹھاکر صاحب چندر پرکاش پر اعتماد کرتے تھے؟
۲. خط نویسی کے سلسلے میں محمد شاہی روش سے غالب کی کیا مراد ہے؟
۳. خواہ مخواہ کی لڑائی سے مصنف کی کیا مراد ہے؟
۴. کل "جدید" لہجہ سے کیا مراد ہے؟
۵. حالی نے زبان کی طاقت کو نمونہ قدرت الہی کیوں کہا ہے؟
۶. شخصی اور قومی اتفاق میں کیا فرق ہے؟
۷. بیگم نے خریداری کی رقم کا کیا کیا؟
۸. کارونجھر پہاڑی سلسلہ کس جگہ واقع ہے؟

کل نشانات: ۴۰

حصہ "ج" (بیانیہ جواب کے سوالات)

(۲۰)

سوال نمبر ۶: مندرجہ ذیل میں سے کسی ایک شاعر کے کلام کی دس خصوصیات تحریر کیجیے:

☆ خواجہ میر درد

☆ مرزا غالب

☆ میر تقی میر

(۲۰)

سوال نمبر ۷: مندرجہ ذیل میں سے کسی ایک نثر نگار کے طرزِ تحریر کی دس خصوصیات تحریر کیجیے۔

☆ منشی پریم چند

☆ الطاف حسین حالی

☆ سر سید احمد خان

-یا-

مندرجہ ذیل عبارت کو پڑھ کر دیے گئے سوالات کے جوابات تحریر کیجیے۔ تمام سوالات کے جوابات مساوی ہیں۔

آج بھی ہمارے بہت سے نادان دوست کہتے ہیں کہ اگر اس قوم نے انگریزی زبان کا ساریہ عاطفت چھوڑا تو یہ قوم یتیم ہو جائے گی، جاہل رہ جائے گی۔ دنیا میں کوئی اس کی بات نہ پوچھے گا۔ بین الاقوامی حلقوں میں اس کا اعتبار ساقط ہو جائے گا۔ انگریزی کو چھوڑ کر یہ قوم ذہنی اعتبار سے مفلس ہو جائے گی۔ علوم و فنون کا جو ذخیرہ انگریزی میں ہے اور اس میں روز بہ روز جو اضافہ ہو رہا ہے یہ قوم اس سے محروم رہ جائے گی۔ ہمارے مہمان قوم کا ایک طبقہ اور ہے جسے اپنی زبان سے بھی ہمدردی ہے۔ یہ لوگ اصولاً تو اس بات کو تسلیم کرتے ہیں کہ قومی ترقی کے لیے قومی زبان کی ترقی ضروری ہوتی ہے اور ملک میں تعلیم و تدریس کے معیار کو اعلیٰ کرنے کے لیے قومی زبان میں تعلیم ہونی چاہیے۔ لیکن ان کے خیال میں اردو بھی اس قابل نہیں ہوئی کہ اسے یہ منصب سونپا جائے۔ اس میں علمی اور فنی اصطلاحات کی کمی ہے۔ اس میں سائنسی مضامین کو ادا کرنے کا اسلوب پیدا نہیں ہوا ہے۔ علوم و فنون پر کتابوں کا ذخیرہ موجود نہیں ہے۔ غرض ان کے خیال میں ابھی وہ وقت نہیں آیا کہ اپنی زبان میں تعلیم دینے کے مسئلے کو اٹھایا جائے۔

۱. اس عبارت کا عنوان تجویز کیجیے۔

۲. قومی زبان کے نفاذ کا مسئلہ کس طرح حل ہو سکتا ہے؟

۳. اردو کو ذریعہ تعلیم بنانے کے سلسلے میں ہمارے مہمان قوم کا ایک طبقہ کیا کہتا ہے؟

۴. عبارت کی روشنی میں انگریزی زبان چھوڑنے پر قوم کو کن مشکلات کا سامنا ہو سکتا ہے؟

۵. عبارت کو پڑھ کر تلخیص کیجیے۔

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وقت: ۱۵ منٹ

کل نشانات: ۱۰

حصہ "الف" (لازمی) (کثیر الانتخابی سوالات)

SECTION 'A' (MULTIPLE CHOICE QUESTIONS)

NOTE:

- This section consists of 10 part questions and all are to be answered. Each part question carries one mark.
- Do not copy the part questions in your answerbook. Write only the answer in full against the proper number of the question and its part.

Q.1: Choose the correct answer for each from given options: (10) سوال نمبر ۱: دیے ہوئے ممکنہ جوابات میں سے ہر ایک کے لئے درست جواب کا انتخاب کیجیے۔ (۱۰)

1. The first Islamic state was established here:

- * Jeddah
- * Riyadh
- * Taif
- * Madinah

i. پہلی اسلامی ریاست یہاں قائم ہوئی:

- ☆ طائف
- ☆ مدینہ
- ☆ جدہ
- ☆ ریاض

2. The meaning of Baqarah is:

- * Deer
- * Sheep
- * Cow
- * Camel

ii. بقرہ کے معنی ہیں:

- ☆ گائے
- ☆ اونٹ
- ☆ ہرن
- ☆ بھیڑ

3. The scribes of the revelation were those who:

- * Wrote Hadith
- * Wrote Quran
- * Wrote Fiqh
- * Wrote Book

iii. کاتبین وحی ہوتے ہیں

- ☆ حدیث لکھنے والے
- ☆ قرآن لکھنے والے
- ☆ فقہ لکھنے والے
- ☆ نامہ اعمال لکھنے والے

4. Hajj is obligatory in a lifetime for those who are capable:

- * Every year
- * Once
- * Three times
- * Twice

iv. اہل استطاعت لوگوں پر زندگی میں حج فرض ہے

- ☆ تین بار
- ☆ دو بار
- ☆ ہر سال
- ☆ ایک بار

5. The primary source of Islam is:

- * Quran
- * Ijma
- * Hadith
- * Qiyas

v. اسلام کا پہلا ماخذ ہے:

- ☆ قرآن
- ☆ اجماع
- ☆ حدیث
- ☆ قیاس

6. The meaning of the word "Nubuwwah" (Prophethood) is:

- * To convey a message
- * To Choose
- * To command
- * Inform

vi. نبوت لفظ کا معنی ہیں

- ☆ پیغام پہنچانا
- ☆ انتخاب کرنا
- ☆ حکم کرنا
- ☆ خبر دینا

7. The most important work of Imam Jafar Sadiq (R.A) is:

- * Al-Kafi
- * Musnad Ahmad
- * Shari'a al-Islam
- * Kitab al-Aasar

vii. امام جعفر صادق رحمہ اللہ علیہ کی سب سے اہم تصنیف ہے

- ☆ الکافی
- ☆ مستند احمد
- ☆ شرائع الاسلام
- ☆ کتاب الآثار

8. Surah Anfal was revealed on the occasion of:

- * Battle of Uhud
- * Battle of Khaybar
- * Battle of Badr
- * Battle of the Trench

viii. سورۃ الانفال اس موقع پر نازل ہوئی ہے:

- ☆ جنگ احد
- ☆ جنگ خیبر
- ☆ جنگ بدر
- ☆ جنگ خندق

9. The meaning of brotherhood (Ukhuwwah) is:

- * Sympathy
- * Maintaining relations
- * Brotherhood
- * Kinship

ix. اخوت کے معنی ہیں:

- ☆ ہمدردی
- ☆ صلہ رحمی
- ☆ بھائی چارہ
- ☆ رشتہ داری

10. "As-Sabr Ziya" means is:

- * Patience is good
- * Patience is light
- * Patience is necessary
- * Patience is goodness

x. الصبر ضیاء کے معنی ہیں:

- ☆ صبر اچھا ہے
- ☆ صبر روشنی ہے
- ☆ صبر ضروری ہے
- ☆ صبر نیکی ہے

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کل نشانات: ۴۰

وقت: اگھنہ ۴۵ منٹ

حصہ "ب" (مختصر جواب کے سوالات)

(۰۸)

سوال نمبر ۲ (الف): درج ذیل میں سے چار آیات کا ترجمہ تحریر کیجیے۔

Q2. (a) Translate any Four of the following Quranic in Urdu, Sindhi or English: (08)

- ۱۔ ذٰلِكَ الْكِتَابُ لَا رَيْبَ فِيهِ هُدًى لِّلْمُتَّقِينَ
۲۔ اِنَّ الدِّينَ كَفَرُوا سَوَاءً عَلَيْهِمْ اَاذَنَرْتَهُمْ اَمْ لَمْ تُنذِرْهُمْ لَا يُؤْمِنُونَ
۳۔ وَمِنَ النَّاسِ مَن يَقُولُ آمَنَّا بِاللّٰهِ وَبِالْيَوْمِ الْآخِرِ وَمَا هُمْ بِمُؤْمِنِينَ
۴۔ يَا أَيُّهَا النَّاسُ اعْبُدُوا رَبَّكُمُ الَّذِي خَلَقَكُمْ وَالَّذِينَ مِن قَبْلِكُمْ لَعَلَّكُمْ تَتَّقُونَ
۵۔ يَسْأَلُونَكَ عَنِ الْأَنْفَالِ قُلِ الْأَنْفَالُ لِلَّهِ وَالرَّسُولِ
۶۔ وَإِن جَنَحُوا لِلسَّلْمِ فَاجْنَحْ لَهَا وَتَوَكَّلْ عَلَى اللَّهِ - إِنَّهُ هُوَ السَّمِيعُ الْعَلِيمُ
۷۔ يَا أَيُّهَا الَّذِينَ آمَنُوا إِذَا قِيلَ لَكُمُ الْفِتْنَةُ وَارْحَمًا فَلَا تُولُوهُمُ الْآذِينَ
۸۔ وَاعْلَمُوا أَنَّمَا آتَاكُمُ اللَّهُ وَأَزَادَكُمْ فِتْنَةً - وَإِنَّ اللَّهَ عِنْدَ آخِرِ عَظِيمٍ

(۰۴)

سوال نمبر ۲ (ب): درج ذیل احادیث میں سے دو کا ترجمہ تحریر کیجیے۔

Q2. (b) Translate any Two of the following Hadith: (04)

- ۱۔ لَا يُؤْمِنُ أَحَدُكُمْ حَتَّىٰ يَكُونَ هُوَ أَتْبَعًا لِّمَا جُنَّتْ بِهِ
۲۔ مَنْ أَحْبَبَ شَيْئًا فَقَدْ أَحْبَبَنِي وَمَنْ أَحْبَبَنِي كَانَ مَعِيَ فِي الْجَنَّةِ
۳۔ مَنْ أَحَبَّ أَنْ يُنْسَطَ لَهُ فِي رِجْلِهِ وَيُنَسَأَ لَهُ فِي أَثَرِهِ فَلْيَصِلْ رَحْمَتَهُ
۴۔ مَنْ صَمَتَ لِحَا

Q3. Attempt any Four (04) Part Questions from this section.

سوال نمبر ۳: مندرجہ ذیل میں سے چار جزوی سوالات کے جوابات تحریر کیجیے۔ تمام جزوی سوالات کے نشانات مساوی ہیں۔ (۰۸)

All questions carry equal marks (08)

- Write down the dictionary and terminology of Wahi and write types of Wahi.
- Explain the concept of Khatm-e-Nabawout (Finality of Prophethood).
- Explain the type of Tawheed (Oneness of God).
- Write down the name of Usul-e-Arba/ Sahah-e-Sittah.
- Write the definition of polytheism and its types with a brief explanation.
- Write the names of four famous angels and their responsibilities.
- State the conditions of Salah (prayer).
- Explain the concept of war booty (Maal-e-Ghanimat).

- وحی کی معنی و مفہوم اور اقسام لکھیے۔
- ختم نبوت کا مفہوم بیان کریں۔
- توحید کی اقسام کی وضاحت کریں۔
- اصول اربعہ یا صحاح ستہ کے نام لکھیے۔
- شرک کی تعریف اور اس کی اقسام مختصر وضاحت کے ساتھ تحریر کیجیے۔
- چار مشہور فرشتوں کے نام اور ذمہ داریاں تحریر کیجیے۔
- نماز کی شرائط بیان کیجیے۔
- مال غنیمت کا مفہوم واضح کیجیے۔

حصہ (ج) بیانیہ جوابات کے سوالات

Note: Write the answers to any two questions from this part. All questions carry equal marks. (20)

نوٹ: اس حصہ سے کسی دو سوالات کے جوابات تحریر کیجیے۔ تمام سوالات کے نشانات مساوی ہیں۔ (۲۰)

Q.4 Explain the concept of Risalat (Prophethood), and describe the unique characteristics of the Prophethood of Muhammad (peace be upon him)?

سوال نمبر ۴: عقیدہ رسالت کی وضاحت کرتے ہوئے رسالت محمدی صلی اللہ علیہ وسلم کی خصوصیات تحریر کیجیے

OR Explain the importance and virtues of Salah (Prayer) or Fasting (Roza) and describe its individual and collective benefits.

یا نماز یا روزہ کی قرآن و حدیث کی روشنی میں وضاحت کرتے ہوئے انسانی زندگی پر اثرات تحریر کیجیے۔

Q.5 Write in detailed note on the Holy Prophet (peace be upon him) as Mercy for all universe.

سوال نمبر ۵: حضور صلی اللہ علیہ وسلم بحیثیت رحمۃ اللعالمین پر مفصل نوٹ تحریر کیجیے۔

Q.6 Write short note on any Two of the following:

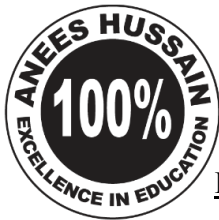
سوال نمبر ۶: کسی دو پر مختصر نوٹ تحریر کیجیے۔

- * Compilation of Holy Quran
- * Islamic Brotherhood
- * Women's Rights
- * Imam Azam Abu Hanifa (R.A.) / Imam Ja'far Sadiq (R.A.)

- ☆ عورتوں کے حقوق
- ☆ تدریس قرآن
- ☆ اسلامی اخوت
- ☆ امام اعظم ابو حنیفہ / امام جعفر صادق

NORTH NAZIMABAD CAMPUS I	NORTH NAZIMABAD CAMPUS II	GULSHAN	NORTH KARACHI	BAHADURABAD	GULISTAN-E-JOHAR	MAYMAR	MALIR
C-17 Block I, 5 Star Chowrang, near Imam Clinic, North Nazimabad, Karachi. 021-36631160/36634284 0321-2333114	2nd Floor Saima Paari View, B-pp Block H, North Nazimabad, near Danis! Snacks 021-36641888/36641888 0333-2867446-7	E4, 1 st Floor, Maqbool Heights, Main NIPA Chowrang, Above Mobile World, Block-10, Gulshan-e-Iqbal, Karachi 021-34989588/34993726 34993996/ 0321-9289588	A-985, 2nd Floor, Sector 11-B, main U.P More bus stop, North Karachi, Karachi 021-36932266/0311-2299282 0322-2685558	Mezzanine Floor, Alamgir Rd, near Subway Snacks & Sharfabad Chowrang, Karachi 021-34943939/ 34921180 0303-2267893	1 st Floor, Sarah Grands, Plot No. 5B-29, Gulistan-e-Johar, Block 7, Main University Road, Near Safora Chowrang, Karachi 021-34661002/34661003 0332-4977706	C-30, 1 st Floor, Sector Z-1, Opposite Mohsin Foods, Gulshan-e-Maymar, Karachi 021-36353355 0314-1222352	Plot No.5, Block - 1, Huma Town, Model colony, Jinnah Avenue Road, Malir, Karachi. 021-34115573, 34115574 0330-2166333





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COMPREHENSIVE EXAMINATION 2025-2026

PHYSICS PAPER-H.S.C. PART-I (PRE-ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 17

Time: 20 Minutes

SECTION 'A'

(MULTIPLE CHOICE QUESTIONS)

- NOTE:**
- This section consists of 17 part questions and all are to be answered. Each part question carries one mark.
 - This section "A" of Multiple Choice Question (MCQS) must be solved on the MCQs/OMR sheet enclosed on the last page provided E-Sheet & OMR (Examination Copy)
 - The correct answer bubble must be filled on MCQs / OMR sheet 1) (A) (B) (C) (D)
 - Use only blue / black ball point on MCQs/OMR sheet.
 - Avoid pencil / White-o-open/ correction pen/ink remover and gel pen to solve the question on MCQs/ OMR sheet.
 - All notations are used in their usual meanings. The use of scientific Calculator is allowed.

Q. 1: Select the correct answer for each from the given options:

- If the cross-sectional area of a pipe decreases, what happens to the fluid velocity?**
A) increases B) decreases C) remains the same D) depends on the fluid density
- The frequency of second pendulum is :**
A) 1 Hz B) 2 Hz C) 0.5 Hz D) 5 Hz
- The light having only single wavelength (λ) is :**
A) monochromatic B) dichromatic C) polychromatic D) multichromatic
- A body executes Simple Harmonic Motion if :**
A) $a = kx$ B) $a = (kx)^{1/2}$ C) $a = -kx$ D) $a = (kx)^2$
- Two bodies are launched with different angles from a same point and they had same range. The angles would be :**
A) 45° and 30° B) 30° and 70° C) 70° and 20° D) 20° and 60°
- The angular momentum of a body is conserved if net ___ on it is zero :**
A) force B) energy C) torque D) momentum
- The unit of the electric field intensity is :**
A) volt / meter B) volt \times meter C) volt \times coulomb D) newton-coulomb / meter
- A rock suspended by a weighing scale weighs 5N out of water and 3 N when submerged in water. What is the buoyant force on the rock?**
A) 3 N B) 8N C) 5N D) 2 N
- If the vectors \vec{A} and \vec{B} are parallel or anti-parallel of each other then :**
A) $\vec{A} \cdot \vec{B} = 1$ B) $\vec{A} \cdot \vec{B} = \pm AB$ C) $\vec{A} \cdot \vec{B} = 0$ D) $\vec{A} \cdot \vec{B} = -AB \cos\theta$
- A heat-sensitive device whose resistivity changes with the change in temperature is called:**
A) conductor B) resistor C) thermometer D) thermistor
- To replace a bright fringe by the next bright fringe in a Michelson interferometer, the movable mirror is moved through a distance equal to:**
A) $\lambda / 4$ B) $\lambda / 2$ C) λ D) 2λ
- The process of superimposing signal frequency on carrier wave is known as :**
A) transmission B) detection C) reception D) modulation
- Kirchhoff's 2nd law are useful in determining:**
A) current flowing in a circuit B) emf and voltage drops in a circuit
C) power in a circuit D) only emf in a circuit

NORTH NAZIMABAD CAMPUS I	NORTH NAZIMABAD CAMPUS II	GULSHAN	NORTH KARACHI	BAHADURABAD	GULISTAN-E-JOHAR	MAYMAR	MALIR
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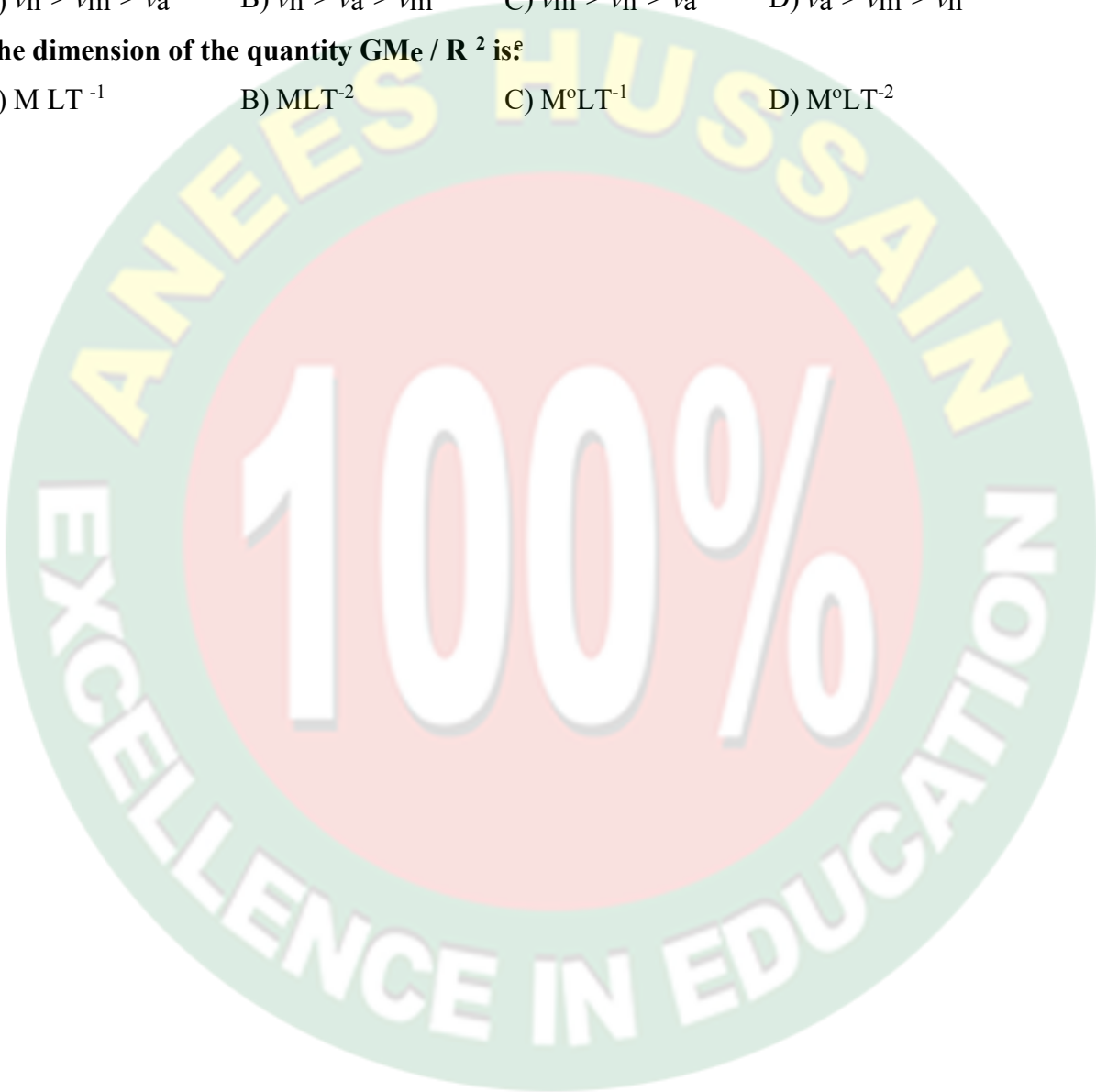
COMPREHENSIVE EXAMINATION 2025-2026

PHYSICS PAPER-H.S.C. PART-I (PRE-ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



- xiv. A stone of 2 kg is tied to a 0.50 m long string and swung around a circle at angular velocity of 12 rad/s. The net torque on the stone about the center of the circle is
- A) 0 N.m B) 6 N.m C) 72 N.m D) 12 N.m
- xv. The angular speed of hour's needle of mechanical watch is ____ radian per hours.
- A) $\pi/2$ B) $\pi/4$ C) $\pi/6$ D) $\pi/12$
- xvi. If v_a , v_h and v_m are the speeds of sound in air, hydrogen gas and a metal at the same temperature, then
- A) $v_h > v_m > v_a$ B) $v_h > v_a > v_m$ C) $v_m > v_h > v_a$ D) $v_a > v_m > v_h$
- xvii. The dimension of the quantity GMe / R^2 is^e
- A) $M L T^{-1}$ B) $M L T^{-2}$ C) $M^0 L T^{-1}$ D) $M^0 L T^{-2}$



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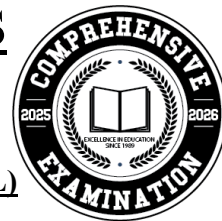
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COMPREHENSIVE EXAMINATION 2025-2026

PHYSICS PAPER-H.S.C. PART-I (PRE-ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 68

Time: 2 hours 40 Minutes

INSTRUCTIONS: i) SECTION 'B' and SECTION 'C' must be solved on provided E-Sheet (Examination Copy).
ii) Student are instructed to write their answers on page allocated for the respective question number.

SECTION 'B'

(36 Marks)

(SHORT-ANSWER QUESTIONS)

NOTE: Answer any **Nine** part questions from this section. All questions carry equal marks. Draw diagram where necessary. Use of Scientific calculator is allowed.

Q. 2:

i. Two capacitors $2 \mu\text{F}$ and $8 \mu\text{F}$ capacitance are connected in series and a potential difference of 200 V is applied. Find the charge and the potential difference for each capacitor.

OR Show that the following formula are dimensionally correct (**any two**)

$$(a) f = \frac{1}{2L} \sqrt{\frac{T}{\mu}} \quad (b) T = 2\pi \sqrt{\frac{m}{k}} \quad (c) S = V_i t + \frac{1}{2} a t^2 \quad (d) T = 2\pi \sqrt{\frac{L}{g}}$$

OR Find the work done by a force vector $= 2\hat{i} - 3\hat{j} - \hat{k}$ in moving an object through a displacement of $\vec{s} = \hat{i} + 4\hat{j} - 2\hat{k}$.

ii. Define escape velocity and derive the expression for escape velocity on earth's surface.

OR Define potential gradient. Show that electric intensity is equal to the negative of potential gradient.

OR How does the temperature affect the resistance of a conductor? Derive an expression for the resistance of the conductor at $T^\circ\text{C}$.

iii. A machine gun fires 20 bullets per second into a target. Each bullet weight 10gm and 200N force is required to hold the gun in position. What is the speed of each bullet?

OR The jet engine of an aero plane develops forward force 200 K N on the aero plane, when aero plane is flying with a speed of 250 m/s . Calculate the horsepower which is being developed when the force and velocity are parallel to each other.

iv. Find the angle of projection of a projectile for which its maximum height and horizontal range are equal.

OR What area must a heating duct have if air moves 3.0 m/s along it can replenish the air every 15 minutes in a room of volume 300 m^3 . Assume air density remains constant.

OR A mortar shell is fired at a ground level target 500m distance with an initial velocity of 90m/s . What is the launch angle?

v. The international space station orbits at an altitude of 400km above the surface of the Earth. What is the space station's orbital velocity?

OR A source of sound and a listener are moving towards each other with velocities which are 0.5 times and 0.2 times the speed of sound respectively. If the source is emitting 3 kilo-hertz tone, calculate the frequency heard by the listener.

vi. Three resistors 1Ω , 2Ω and 3Ω are combined in series. What is the total resistance of the combination? If the combination is connected to a battery of e.m.f 24 V and negligible internal resistance, obtain the potential drop across each resistor.

OR calculate the resistance of 100-meter rolls of 2.5m m^2 copper wire if the resistivity of copper at 20°C is $1.72 \times 10^{-2} \Omega \text{ meter}$.

vii. What is the angular momentum of a 2.9kg uniform cylindrical grinding wheel of radius 20cm when rotating 1550rpm how much torque required to stop it in 6sec ?

OR A rectangular boat is 4.0m wide, 8.0m long and 3.0m deep (a) how much water it displaces if the top stays 1m above the water (b) what load will the boat contain under these conditions if the empty boat weighs $8.6 \times 10^4 \text{ N}$ in dry dock?

viii. Calculate the speed of sound in air at S.T.P. What will be the speed of sound at 40°C ?

OR A increase in pressure of 100kPa cause a certain volume of water decrease by $5 \times 10^{-3} \%$ of its original volume find (a) bulk modulus of water (b) what is the speed of sound in water?

OR A sewing machine needle moves with rapid vibratory motion, like S.H.M as it sews a seam suppose the needle moves 8.4mm from its highest to its lowest position and it makes 24 stitches in 9.0s . what is the maximum needle speed?

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COMPREHENSIVE EXAMINATION 2025-2026

PHYSICS PAPER-H.S.C. PART-I (PRE-ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



- ix. A monochromatic light of wavelength 6900\AA is used to illuminate two parallel slits. On a screen that is 3.30 m away from the slits, interference fringes are observed. The distance between adjacent bright fringes in the center of the pattern is 1.80 cm. What is the distance between the slits.
- OR A soap bubble in air is of thickness 320 nm. If it is illuminated with white light at near normal incidence, what color will appear to be in reflected light? ($n=1.50$)
- OR How far apart must two protons be if the magnitude of electrostatic force acting on the either one due to the other is equal to the magnitude of gravitational force on a proton at Earth's surface? (mass of Proton= $1.67 \times 10^{-27}\text{kg}$ and charge of proton= $1.6 \times 10^{-19}\text{C}$)
- x. State Pascal's law. Is Pascal's law valid for incompressible static fluids? Explain
- OR What is interference of light? State three conditions of interference of light
- OR Describe the setup and procedure of the diffraction of x-rays through a crystal experiment.

SECTION 'C'

(32 Marks)

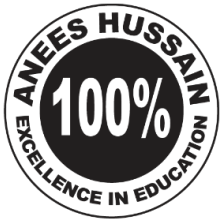
(DETAILED-ANSWER QUESTIONS)

NOTE: Answer any **Four** questions from this section. All questions carry equal marks.

- Q.3 What are Newton's Rings? Derive an expression for the radius of n^{th} Newton's bright ring relating to the radius of curvature of the convex lens and the wavelength of the light used.
- OR What is an electric dipole? Derive the expression for electric field intensity due to electric dipole at a point which is at a perpendicular distance y from the center of the dipole.
- OR Describe Young's double slit experiment and derive the expressions for position of dark and bright fringes. Also derive expression for fringe spacing.
- Q.4 Two vectors A_1 and A_2 are making angles θ_1 and θ_2 with positive x-axis respectively. Derive the formula for the magnitude and direction of resultant vector.
- OR Derive Bernoulli's equation for steady, incompressible, non-viscous and irrotational flow of fluid.
- Q.5 Describe the stationary waves produced in a stretched string. Derive the expression for frequencies when string is vibrating in i) one loop ii) two loops iii) three loops iv) n loops.
- OR Two smooth rigid non-rotating spheres of masses m_1 and m_2 , moving with velocities U_1 and U_2 respectively, collide elastically in one dimension. Derive the expression for the velocity of any one of the spheres after collision.
- OR Explain Newton's Formula for the speed of sound. What correction did the Laplace make in Newton's Formula? What is the effect of temperature on the speed of sound? Derive the relevant formula.
- Q.6 Define simple harmonic motion. Show that the motion of projection of uniform circular motion of a particle on the diameter of the reference circle is simple harmonic. Hence, find expression for instantaneous velocity and period of a simple harmonic oscillator.
- OR Explain projectile motion. A shell is shot from gun at an angle ' θ ' with the horizontal with an initial velocity v_0 . Derive the expressions
- i) Time to reach max. height ii) for the maximum height of the projectile
- iii) range of the projectile.
- OR What is capacitance of a capacitor? Derive an expression for the capacitance of a parallel plate capacitor when:
- (a) air is present between the plates (b) A dielectric slab is present between the plates
- Q.7 What is Doppler's effect? Derive the expression for the frequency detected by listener
- i) When the source moves towards and away from the stationary listener
- ii) When the source and listener both move towards each other
- OR Define conservative field? Show that the Earth's gravitational field is conservative and it is independent of the path followed by the body.
- OR Show that the total energy of simple harmonic oscillator always remains constant

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COMPREHENSIVE EXAMINATION 2025-2026

MATHEMATICS PAPER-HSC PART-I (PRE-ENGINEERING)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 20

Time: 20 Minutes

SECTION 'A'

(MULTIPLE CHOICE QUESTIONS)

- NOTE:**
- This section consists of 20 part questions and all are to be answered. Each part question carries one mark.
 - This section "A" of Multiple Choice Question (MCQs) must be solved on the MCQs/OMR sheet enclosed on the last page provided E-Sheet & OMR (Examination Copy)
 - The correct answer bubble must be filled on MCQs / OMR sheet 1) (A) (B) (C) (D)
 - Use only blue / black ball point on MCQs/OMR sheet.
 - Avoid pencil / White-o-open/ correction pen/ink remover and gel pen to solve the question on MCQs/ OMR sheet.
 - All notations are used in their usual meanings. The use of scientific Calculator is allowed.

Q. 1: Choose the correct answer for each from the given options:

- If $i^n = 1$, the least value of (n) is:
A) 1 B) 2 C) 3 D) 4
- Real part of $\frac{2+i}{i}$ is equal to _____.
A) 1 B) 2 C) -1 D) $\frac{1}{2}$
- The periodic matrix having period 1 than the matrix is said to be:
A) Idempotent B) Involutory C) Nilpotent D) Identity
- If $\begin{vmatrix} a & b \\ 0 & 7 \end{vmatrix} = \begin{vmatrix} 2 & 3 \\ 1 & -9 \end{vmatrix}$ then:
A) $a = -3$ B) $a = b$ C) $a = \frac{1}{3}$ D) $a = -\frac{1}{3}$
- If $|\vec{a}| = 10$, $|\vec{b}| = 2$ and $\vec{a} \cdot \vec{b} = 0$ then the value of $|\vec{a} \times \vec{b}|$ is:
A) 10 B) 16 C) 14 D) 20
- If $\frac{a-b}{b-c} = \frac{a}{b}$ then a, b and c are in:
A) A.P B) G.P C) H.P D) None of these
- If $a_n - a_{n-1} = n + 1$ and $a_4 = 14$ then $a_5 =$ _____.
A) 3 B) 5 C) 14 D) 20
- $\sum_{n=3}^{20} n^0$: _____
A) 1 B) 19 C) 20 D) 18
- If ${}^{12}C_r = {}^{12}C_{r+4}$ then ${}^6C_r =$ _____.
A) 20 B) 12 C) 15 D) 6
- A die is rolled, probability of getting a prime number is:
A) $\frac{1}{3}$ B) $\frac{5}{6}$ C) $\frac{1}{2}$ D) 1
- $1 - x + x^2 - x^3 + \dots$ is equal to:
A) $(1 - x)^{-1}$ B) $(1 + x)^{-1}$ C) $(1 + x)^{-2}$ D) $(1 - x)^{-3}$
- The range of $f(x) = x^2 + 3 \forall x \in \mathbb{R}$ is:
A) \mathbb{R}^+ B) \mathbb{R}^- C) $[3, \infty)$ D) $[-3, \infty)$
- Inverse of a function exist only if it is:
A) Injective B) Bijective C) Surjective D) All of these
- The region of solution in L.P problem is called _____.
A) Infeasible region B) Unbounded region C) Infinite region D) feasible region
- Solution space of a linear inequality $2x + 3y \leq 6 \forall x, y \in \mathbb{R}$ includes all points:
A) above the line B) below the line
C) On and above the line D) on and below the line

NORTH NAZIMABAD CAMPUS I	NORTH NAZIMABAD CAMPUS II	GULSHAN	NORTH KARACHI	BAHADURABAD	GULISTAN-E-JOHAR	MAYMAR	MALIR
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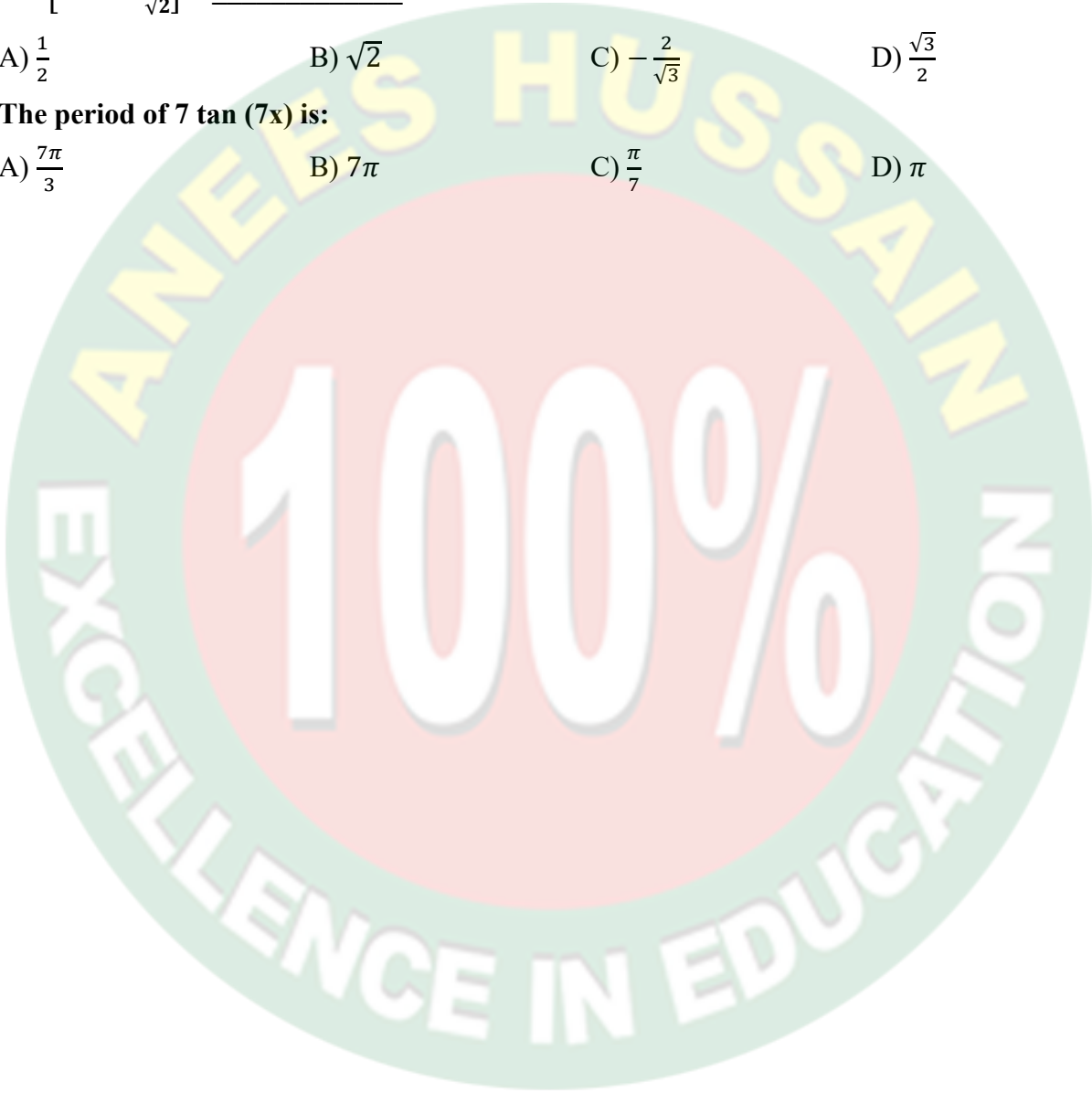
COMPREHENSIVE EXAMINATION 2025-2026

MATHEMATICS PAPER-HSC PART-I (PRE-ENGINEERING)

According to the syllabus of the Board of Intermediate Education, Karachi

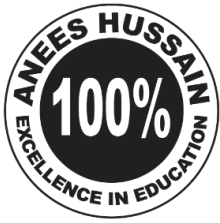


16. $\cos 3\theta$ is equal to:
A) $3\cos\theta - 4\cos\theta$ B) $3\cos^3\theta + 4\cos\theta$ C) $4\cos^3\theta - 3\cos\theta$ D) $4\cos^3\theta + 4\cos\theta$
17. $2\sin 7\theta \sin 2\theta =$ _____:
A) $\cos 5\theta - \cos 9\theta$ B) $\cos 9\theta - \cos 5\theta$ C) $\sin 9\theta + \sin 5\theta$ D) $\sin 9\theta - \sin 5\theta$
18. In any triangle ABC area of triangle is:
A) $bcsina$ B) $\frac{1}{2}acsina$ C) $\frac{1}{2}absiny$ D) $\frac{1}{2}absin\beta$
19. $\sec \left[\sin^{-1} \frac{1}{\sqrt{2}} \right] =$ _____.
A) $\frac{1}{2}$ B) $\sqrt{2}$ C) $-\frac{2}{\sqrt{3}}$ D) $\frac{\sqrt{3}}{2}$
20. The period of $7 \tan (7x)$ is:
A) $\frac{7\pi}{3}$ B) 7π C) $\frac{\pi}{7}$ D) π



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COMPREHENSIVE EXAMINATION 2025-2026

MATHEMATICS PAPER-HSC PART-I (PRE-ENGINEERING)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 80

Time: 2 hours 40 Minutes

- INSTRUCTIONS:**
- SECTION 'B' and SECTION 'C' must be solved on provided E-Sheet (Examination Copy).
 - Student are instructed to write their answers on page allocated for the respective question number.
 - All notations are used in their usual meanings. The use of scientific Calculator is allowed.

SECTION 'B'

(Marks: 40)

(SHORT-ANSWER QUESTIONS)

NOTE: Answer All part questions from this section. All questions carry equal marks.

Q.2:

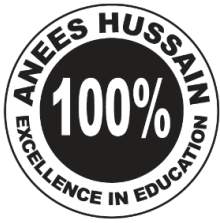
- Attempt either part (a) or part (b):
 - Solve the following complex equation:
 $(x, y) \cdot (2, 3) = (-4, 7)$
 - Find the real and imaginary parts of $(\sqrt{2} + i)^{-2}$
OR Write the following polynomial as the product of linear factors $z^3 - 3z^2 + 4z - 2$
- Find the index of the following nilpotent matrix.

$$\begin{bmatrix} 1 & -3 & -4 \\ -1 & 3 & 4 \\ 1 & -3 & -4 \end{bmatrix}$$
 OR Find the values of unknown x,y and z given that matrix $A = \begin{bmatrix} 3 & x + 2i & yi \\ 3 - 2i & 0 & 1 + zi \\ yi & 1 - xi & -1 \end{bmatrix}$ is Hermitian.
- By using properties of determinants prove that $\begin{vmatrix} 1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c \end{vmatrix} = abc \left(1 + \frac{1}{a} + \frac{1}{b} + \frac{1}{c}\right)$ OR

$$\begin{vmatrix} \alpha & \beta\gamma & \alpha\beta\gamma \\ \beta & \gamma\alpha & \alpha\beta\gamma \\ \gamma & \alpha\beta & \alpha\beta\gamma \end{vmatrix} = \begin{vmatrix} \alpha & \alpha^2 & \alpha^3 \\ \beta & \beta^2 & \beta^3 \\ \gamma & \gamma^2 & \gamma^3 \end{vmatrix}$$
- If α, β, γ are the direction angles of a vector then show that $\sin^2 \alpha + \sin^2 \beta + \sin^2 \gamma = 2$
OR Find a unit vector perpendicular to each of the vectors $\vec{a} = \hat{i} - 2\hat{j} + 3\hat{k}$, $\vec{b} = 3\hat{i} - 2\hat{j} + \hat{k}$
- Attempt either part (a) or part (b):
 - Find n so that $\frac{a^{n+5} + b^{n+5}}{a^{n+4} + b^{n+4}}$ may be the A.M between a and b
OR In a G.P $a_1 = \frac{5}{9}$, $a_6 = \frac{15625}{9}$, find the nth term.
 - Sum the series upto n terms
 $1 + (1 + 2) + (1 + 2 + 3) + \dots$ upto n terms.
OR Find sum of series $\sum_{k=1}^{\infty} \frac{1}{4k^2 - 1}$
- Attempt either part (a) or part (b):
 - If the sum of the first and sixth terms of H.P is $\frac{31}{116}$. Find the harmonic sequence if the first term is $\frac{1}{4}$.
 - Find inverse of (f) and determine the domain and range of f^{-1} where $f(x) = \frac{x-1}{x-3}$ $x \neq 3$.
OR If $f(x) = x^3 - ax^2 + bx + 1$, find the values of a and b where $f(2) = -3$, $f(-1) = 0$.
- How many distinct permutation of letters of the word "ESSENTIAL" are possible? How many will have the two "S" i) together ii) separate.
OR In how many ways can two English books, three Chemistry books and four Physics books be arranged on a shelf so that all the books of same subjects are together.
OR If ${}^n P_r = 210$ and ${}^n C_r = 35$, find n and r.
OR How many words can be formed by 3 vowels and 4 consonants out of 5 vowels and 7 consonants.
- Attempt either part (a) or part (b):
 - Prove the following proposition by mathematical induction:
 $P(n) = 1 + 4 + 7 + \dots + (3n - 2) = \frac{n(3n-1)}{2}$ OR $P(n) = 2^{3n+2} - 28n - 4$ is divisible by 49
 $\forall n \in \mathbb{N}$
 - If $A + B + C = 180^\circ$ then prove that:
 $\tan \frac{A}{2} \tan \frac{B}{2} + \tan \frac{B}{2} \tan \frac{C}{2} + \tan \frac{C}{2} \tan \frac{A}{2} = 1$ OR $\cos 4\theta = 8 \cos^4 \theta - 8 \cos^2 \theta + 1$

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COMPREHENSIVE EXAMINATION 2025-2026

MATHEMATICS PAPER-HSC PART-I (PRE-ENGINEERING)

According to the syllabus of the Board of Intermediate Education, Karachi



- ix) Attempt either part (a) or part (b):
- a) Prove that $\frac{\sin 6\theta + \sin 4\theta}{\cos 6\theta + \cos 4\theta} = \tan 5\theta$ OR $\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ = \frac{1}{16}$ OR $\sin 50^\circ - \sin 70^\circ + \sin 10^\circ = 0$
- b) Find the general solution of the trigonometric equation:
 $4 \cos^2 x - 8 \sin x + 1 = 0$ OR $\operatorname{cosec} \theta = \sqrt{3} + \cot \theta$ OR $4 \sin^2 \left(\frac{x}{2}\right) - 3 = 0$
- x) Attempt either part (a) or part (b):
- a) The area of triangle is 3.346 square unit. If $\beta = 20.9^\circ$, $\gamma = 117.2^\circ$. Find a and angle α .
 OR Solve the triangle ABC where $a = 70$, $b = 34$ and $\alpha = 79^\circ$.
- b) Show that $\cos^{-1} \left(\frac{2}{\sqrt{5}}\right) + \tan^{-1} \left(\frac{1}{3}\right) = \frac{\pi}{4}$ OR $\cos^{-1} y + \cos^{-1}(-y) = \pi$ OR $\cos^{-1} \left(\frac{8}{17}\right) - \cos^{-1} \left(\frac{3}{5}\right) = \cos^{-1} \left(\frac{84}{85}\right)$

SECTION 'C'

(Marks: 40)

(DETAILED-ANSWER QUESTIONS)

Note: Answer all questions from this section. All part questions carry equal marks.

- Q3. Attempt either part (a) or part (b):
- a) Solve the non-homogenous system of linear equation using Gauss Elimination Method OR Gauss Jordan Method.

$$\begin{array}{r} 2x + 2y - z = 4 \\ x - 2y + z = 2 \\ x + y = 0 \end{array}$$
 OR
$$\begin{array}{r} x + 2y + z = 8 \\ 2x - y + z = 3 \\ x + y - z = 0 \end{array}$$
- b) Find the inverse of the matrix by using elementary row operations:

$$\begin{bmatrix} 1 & 2 & -3 \\ 0 & -2 & 0 \\ -2 & -2 & 2 \end{bmatrix}$$
- Q4. A room has 3 lamps from a collection of 10 light bulbs of which 6 are no good, a person selects 3 at random and puts them in the sockets. What is the probability that he will have light?
 OR The king, queen and jack of clubs are removed from a deck of 52 playing cards and then shuffled. A card is drawn from the remaining cards. Find the probability of getting (i) a heart, (ii) a queen, (iii) a club (iv) '9' of red color
 OR A pair of fair dice is thrown. If the two numbers appearing are different, find the probability that (i) the sum is 10, (ii) the sum is six or less.
- Q5. Attempt either part (a) or part (b):
- a) Prove Hexagon law of vector addition:
 OR A, B, C are the points \vec{a} , \vec{b} and $2\vec{a} - \vec{b}$ respectively. D divides \vec{AC} in 2:3 and E divides \vec{BD} in 4:1. Find the position of vector E.
 OR Find the Volume of the tetrahedron whose vertices are A(2,1,8), B(3,2,9), C(2,1,4) and D(3,3,10).
- b) If $\frac{1}{x} = \frac{2}{5} + \frac{1 \cdot 3}{2!} \left(\frac{2}{5}\right)^2 + \frac{1 \cdot 3 \cdot 5}{3!} \left(\frac{2}{5}\right)^3 + \dots$, then show that $4x^2 - 2x - 1 = 0$
 OR If $y = \frac{1}{2} \cdot \frac{1}{16} - \frac{1}{2! \cdot 4} \cdot \frac{1}{16^2} + \frac{1}{3!} \cdot \frac{1 \cdot 3}{8} \cdot \frac{1}{16^3} + \dots$, then show that $16y(y + 2) = 1$.
- Q6. Attempt either part (a) or part (b):
- a) Find the equation of the graph of function of the type $y = ax^2 + bx + c$ which crosses the x-axis and the point (-8, 0) and (9, 0) and also passes through (5, 10).
- b) The sides of a parallelogram are 25cm and 35cm long and one of its angle is 36° . Find the length of its diagonals.
 OR Show that $r = 4R \sin \frac{\alpha}{2} \sin \frac{\beta}{2} \sin \frac{\gamma}{2}$.
 OR Derive any one:
 i) Sine law ii) Cosine law iii) Tangent law iv) $\sin \frac{\alpha}{2} = \sqrt{\frac{(s-b)(s-c)}{bc}}$
 v) $\cos \frac{\alpha}{2} = \sqrt{\frac{s(s-a)}{bc}}$ vi) $r = \frac{\Delta}{s}$ vii) $r_1 = \frac{\Delta}{s-a}$
- Q7. Attempt either part (a) or part (b):
- a) Solve the following linear programming problem by graphical method when $x \geq 0, y \geq 0$.
 Maximize the objective function $z = f(x, y) = 30x + 36y$ subject to constraints $4x + 2y \leq 12$, $6x + 5y \leq 20$ OR Minimize $z = 3x + 2y$ subject to constraints $2x + y \geq 6$, $x + y \geq 4$.
- b) By using a graph, find the solution the trigonometric equation:
 $\sin x - \frac{2x}{\pi} = 0$ OR $\tan x - \frac{4x}{\pi} = 0$ OR $\cos x - x = 0$ where $-\frac{\pi}{2} \leq x \leq \frac{\pi}{2}$

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COMPREHENSIVE EXAMINATION 2025-2026

BIOLOGY PAPER-HSC-I (SCIENCE PRE-MEDICAL GROUP)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 09

BOTANY (THEORY)

Time: 15 minutes

SECTION 'A'

(MULTIPLE CHOICE QUESTIONS)

- NOTE:**
- This section consists of 18 part questions and all are to be answered. Each part question carries 0.5 mark.
 - This section "A" of Multiple Choice Question (MCQS) must be solved on the MCQs/OMR sheet enclosed on the last page provided E-Sheet & OMR (Examination Copy)
 - The correct answer bubble must be filled on MCQs / OMR sheet 1) (A) (B) (C) (D)
 - Use only blue / black ball point on MCQs/OMR sheet.
 - Avoid pencil / White-o-open/ correction pen/ink remover and gel pen to solve the question on MCQs/ OMR sheet.

Q. 1: Choose the correct answer for each from the given options:

- Infectious RNA particles without protein coat are called:**
A) Virion B) Viroid C) Virusoid D) Prion
- The last electron acceptor in respiration is:**
A) O₂ B) CO₂ C) H₂ D) NADH
- Salt-loving plants are known as:**
A) Xerophytes B) Hydrophytes C) Halophytes D) Mesophytes
- The region where the bacterial genome resides is termed as:**
A) Nucleus B) Cytoplasm C) Nucleoid D) Cosmid
- The membrane around the Vacuole is called:**
A) Cytoplast B) Tonoplast C) Amyloplast D) Chromoplast
- Porin protein channels are present in mitochondrial:**
A) Inner membrane B) Matrix C) Outer membrane D) None of them
- Electron from excited chlorophyll molecule of PS II is first accepted by:**
A) Plastoquinone B) Ferredoxin C) Cytochrome 'b' D) cytochrome 'f'
- HIV is the type of:**
A) DNA virus B) RNA retrovirus C) Bacteriophage D) Adenovirus
- Microfilaments are mainly composed of proteins called:**
A) Actin B) Tubulin C) Myosin D) Chitin
- A macronutrient required by plants in large amounts:**
A) Zinc B) Nitrogen C) Copper D) Manganese
- A process which is responsible for the upward movement of water in plants:**
A) Transpiration pull B) Root pressure C) Diffusion D) Active transport
- The plant tissue that provides structural support and flexibility is:**
A) Sclerenchyma B) Collenchyma C) Phloem D) Parenchyma
- A plant hormone which helps in maintaining homeostasis during drought conditions:**
A) Auxin B) Abscisic acid (ABA) C) Cytokinin D) Gibberellin
- Photorespiration primarily occurs in:**
A) Mitochondria B) Chloroplast C) Ribosome D) Golgi apparatus
- The structure that allows bacteria to exchange genetic material during conjugation is called:**
A) Flagella B) Pili C) Capsule D) Ribosome
- Source and sink in plants are:**
A) Leaves and roots B) Roots and root hairs C) Internodes and Sepals D) Stem and nodes
- The scientist is known for introducing the three domain system of classification:**
A) Charles Darwin B) Carl Woese C) Robert Koch D) Louis Pasteur
- A phytohormone that helps in fruit ripening is known as:**
A) Auxin B) Gibberellins C) Cytokinin D) Ethylene

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COMPREHENSIVE EXAMINATION 2025-2026

BIOLOGY PAPER-HSC-I (SCIENCE PRE-MEDICAL GROUP)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 36

BOTANY (THEORY)

Time: 1 hour 45 minutes

INSTRUCTIONS: i) SECTION 'B' and SECTION 'C' must be solved on provided E-Sheet (Examination Copy).
ii) Student are instructed to write their answers on page allocated for the respective question number.

SECTION 'B'

(SHORT-ANSWER QUESTIONS)

(Marks: 18)

Q. 2: Answer All part questions. All part questions carry equal marks.

- i. How mitochondria is similar to the bacteria? Give reason.
OR Why Protoctista is not considered as monophyletic group?
- ii. Why deutromycota are considered as fungi and imperfecti.
OR Describe the role and deficiency symptoms of nitrogen and potassium in plants.
- iii. Describe the genetic recombination in bacteria.
OR Draw the diagram of structure of bacterial cell and Marchantia Thallus.
- iv. Define apical meristem. Write the role of apical meristem.
OR Write the adaptation of plants to low and high temperature?
- v. How life cycle of plant show alternation of generation.
OR Why CAM plant close stomata in day time?
- vi. Define fermentation. Describe the alcoholic and lactic acid fermentation.
OR Write the fundamental adaptation of vascular plants for land habitat.
- vii. Explain evolution of leave **OR** Seed.
OR Why virus need a host cell to complete its life cycle?
- viii. Write the difference b/w any one of the following:
 - a) Angiosperm and Gymnosperm
 - b) Gram+ve and Gram-ve bacteria
 - b) Photosynthesis and respiration
 - d) Recemose and Cymose inflorescence
- ix. Define reverse transcription. What do you mean by positive and negative sense virus?
OR Define the following terms:
 - a) Double fertilization
 - b) Sclerenchyma
 - c) Plasmodesmata
 - d) Plasmolysis

SECTION "C"

(DETAILED – ANSWER QUESTIONS)

(Marks: 18)

NOTE: Answer any TWO (02) questions. All questions carry equal marks.

- Q.3** Describe the life cycle of Fern **OR** Moss **OR** Ulva in detail with the help of diagram.
- Q.4** Define osmoregulation. Describe the classification of plants on the basis of osmotic adjustment.
OR Define Ascent of sap. Describe the cohesion and tension theory of water movement through xylem.
- Q.5** Describe the process of glycolysis and also draw the flowchart **OR** Explain Oxidative breakdown of Pyruvic acid.
OR Define AIDS. Describe the life cycle of HIV in detail with the help of labelled diagram and also mention their symptoms, treatment and control.

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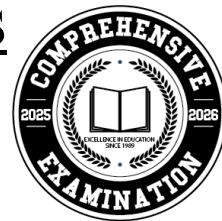
ANEES HUSSAIN COACHING CLASSES

EXCELLENCE IN EDUCATION SINCE 1989

COMPREHENSIVE EXAMINATION 2025-2026

BIOLOGY PAPER-HSC-I (SCIENCE PRE-MEDICAL GROUP)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 08

Time: 20 minutes

ZOOLOGY (THEORY)

SECTION 'A'

(MULTIPLE CHOICE QUESTIONS)

NOTE:

- This section consists of 16 part questions and all are to be answered. Each part question carries 0.5 mark.
- This section "A" of Multiple Choice Question (MCQs) must be solved on the MCQs/OMR sheet enclosed on the last page provided E-Sheet & OMR (Examination Copy)
- The correct answer bubble must be filled on MCQs / OMR sheet 1) (A) (B) (C) (D)
- Use only blue / black ball point on MCQs/OMR sheet.
- Avoid pencil / White-o-open/ correction pen/ink remover and gel pen to solve the question on MCQs/ OMR sheet.

Q. 1: Select the correct answer for each from the given options:

- _____ is not a polymer
A) Starch B) glycogen C) Polypeptide chain D) Amino acid
- Bilirubin and biliverdin are the excretory products of _____**
A) RBC's B) WBC's C) Plasma D) None
- Bile juice is secreted under the stimulation of _____ from Duodenum**
A) Trypsin B) Lipase C) Cholecystokinin D) Gastrin
- Sea horse belongs to class _____**
A) Osteichthyes B) Chondrichthyes C) Both D) None
- Scoliodon is commonly called as _____**
A) Torpedo B) Dog fish C) Lemon Shark D) Great white shark
- Glucose + Fructose = _____**
A) Sucrose B) Lactose C) Maltose D) Starch
- Maximum CO₂ is transported in the body as _____**
A) Dissolve in plasma B) Carbamino hemoglobin
C) Bicarbonates D) All of these
- Sickle cell anemia is due to glutamic acid replace by _____**
A) Lipids B) Steroids C) Valine D) Maltose
- Avg heartbeat of a Man is _____ per min**
A) 60 B) 72 C) 50 D) 75
- Fish heart shows _____ type of circulation.**
A) Single circuit B) incomplete double circuit
C) complete Double circuit D) None
- Heart receives the Oxygenated blood from Lungs through _____**
A) Vana cava B) pulmonary vein C) pulmonary artery D) artery
- All are the examples of Oviparous animals' except _____**
A) Spiny ant eater B) parrot C) bat D) sparrow
- This is the oxygen carrier in blood:**
A) Myoglobin B) Haemocyanin C) Haemoglobin D) Oxytocin
- This is an example of a globular protein:**
A) Haemoglobin B) Silk C) Elastin D) Collagen
- All actively participate in phagocytosis except:**
A) Neutrophil B) Basophil C) Monocyte D) Macrophage
- The non-protein part of an enzyme is called:**
A) Co-enzyme B) Co-factor C) Apo-enzyme D) Holoenzyme

NORTH NAZIMABAD CAMPUS I	NORTH NAZIMABAD CAMPUS II	GULSHAN	NORTH KARACHI	BAHADURABAD	GULISTAN-E-JOHAR	MAYMAR	MALIR
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EXCELLENCE IN EDUCATION SINCE 1989

COMPREHENSIVE EXAMINATION 2025-2026

BIOLOGY PAPER-HSC-I (SCIENCE PRE-MEDICAL GROUP)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 32

Time: 1 hour 40 minutes

INSTRUCTIONS: i) SECTION 'B' and SECTION 'C' must be solved on provided E-Sheet (Examination Copy).
ii) Student are instructed to write their answers on page allocated for the respective question number.

ZOOLOGY (THEORY)

SECTION 'B'

(SHORT-ANSWER QUESTIONS)

(Marks: 16)

Note: Answer any **Eight** part questions in all. Select four **Reasoning Questions** and four **Non-Reasoning Questions**. All part questions carry equal marks.

Q. 2 (a): Reasoning Questions

- i. Why does an oil drop spread when placed on the surface of water?
OR Why Cytotoxic T-Cell are considered as serial killer?
- ii. Aschelminthes possess a body cavity, but it is called a pseudocoelom. Why?
OR Why glycolipids are considered as Cerebrosides?
- iii. Why fats cannot be digested in case of gall bladder removal?
OR How primary immunity differs from secondary immunity?
- iv. Why does gastric acid not damage the stomach lining?
OR How does pH affect enzyme activity?
- v. Why do fats yield more energy than carbohydrates?
OR Why does the rate of breathing increase during exercise or running?

Q. 2 (b): Non-Reasoning Questions

- vi. Write a short note on Active and Passive immunity.
OR Differentiate between cartilaginous fish and bony fish.
- vii. Write a note on Anorexia Nervosa **OR** Bulimia Nervosa
OR Differentiate between DNA & RNA.
- ix. Write a note sinus and its types.
OR Explain the function of Liver.
- x. Write a note on single circulation and double circulation with examples.
OR Describe Lungs capacities in short..

SECTION "C"

(DETAILED – ANSWER QUESTIONS)

(Marks: 16)

Note: Attempt any **TWO** questions from this section. All questions carry equal marks.

- Q.3** Describe the **classification of Carbohydrates** in detail along with its Functions and Examples.
OR Describe the **classification of Lipid** in detail along with its Functions and Examples
- Q.4** What is the **adaptive immune system**? Give a detailed account of the **humoral OR Cell mediated immunity**.
OR Describe in detail Human Heart structure with labeled diagram.
- Q.5** Describe in detail the Human Respiratory system along with diagram.
OR Draw detail diagram of Human digestive system along with Description up to the Stomach.

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COMPREHENSIVE EXAMINATION 2025-2026

CHEMISTRY H.S.C. PART-I (PRE-ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 17

Time: 20 Minutes

SECTION 'A'

(MULTIPLE CHOICE QUESTIONS)

- NOTE:**
- This section consists of 17 part questions and all are to be answered. Each part question carries one mark.
 - This section "A" of Multiple Choice Question (MCQS) must be solved on the MCQs/OMR sheet enclosed on the last page provided E-Sheet & OMR (Examination Copy)
 - The correct answer bubble must be filled on MCQs / OMR sheet 1) (A) (B) (C) (D)
 - Use only blue / black ball point on MCQs/OMR sheet.
 - Avoid pencil / White-o-open/ correction pen/ink remover and gel pen to solve the question on MCQs/ OMR sheet.
 - The use of scientific Calculator is allowed.

Q. 1: Choose the correct answer for each from the given options:

- If the electron in a hydrogen atom drops from $n = 6$ to $n = 2$ in which series of lines in the spectrum of atomic hydrogen will the emitted radiation lie?**
A) Lyman B) Balmer C) Paschen D) Bracket
- The unit of equilibrium constant K_c for this reaction is**
$$2NO + O_2 \rightleftharpoons 2NO_2$$

A) Mole dm^3 B) Mole² dm^{-3} C) mole⁻² dm^{+6} D) $dm^3 mol^{-1}$
- Calorie is equivalent to:**
A) 0.418J B) 41.84J C) 4.184J D) 418.4J
- The degenerated orbital exist in d-subshell is**
A) 2 B) 4 C) 5 D) 3
- A Real gas obeys ideal gas laws under the conditions of:**
A) High temperature and pressure B) high temperature and low pressure
C) Low temperature and pressure D) low temperature and high pressure
- The covalent molecule having bond angle of 107° is.**
A) NH_3 B) BF_3 C) H_2O D) $MgCl_2$
- The overall order of reaction to which the rate law is $R=K$**
A) Zero order B) First order C) Second order D) Third order
- Standard Reduction Potential of Zinc electrode is :**
A) -0.76 B) -0.34 C) -0.5 D) +0.8
- $11.2 dm^3$ of oxygen at S.T.P contains _____ molecules.**
A) 1.2×10^{23} B) 6.02×10^{23} C) 3.01×10^{23} D) 22.4×10^{23}
- The bond distance between carbon-carbon single bond (C-C) is _____.**
A) $1.54A^\circ$ B) $1.34A^\circ$ C) $1.20A^\circ$ D) $1.39A^\circ$
- The oxide which is amphoteric in nature is**
A) Na_2O B) ZnO C) SO_2 D) CO
- Strength of sigma bond is highest for**
A) s-s overlap B) s-p overlap C) p-p overlap D) sp^3 -s overlap
- Crystal systems of unit cell can be categorized into:**
A) Five types B) Seven types C) Six types D) Two types
- The following is an extensive property:**
A) Melting point B) Vapour pressure C) Surface tension D) Volume
- A colloidal solution of liquid into liquid is:**
A) Gel B) Solution C) Foam D) Emulsion
- Galvanized rod of iron is coated with :**
A) Nickel B) Zinc C) Chromium D) Carbon
- According to Roul't's law the relative lowering of vapour pressure is equal to:**
A) Mole fraction of solvent B) Mole fraction of solute
C) Molality D) Molarity

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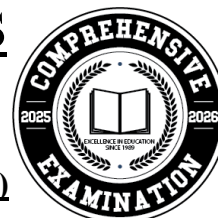
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EXCELLENCE IN EDUCATION SINCE 1989

COMPREHENSIVE EXAMINATION 2025-2026

CHEMISTRY H.S.C. PART-I (PRE-ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 68

Time: 2 hours 40 Minutes

INSTRUCTIONS: i) SECTION 'B' and SECTION 'C' must be solved on provided E-Sheet (Examination Copy).
ii) Student are instructed to write their answers on page allocated for the respective question number.

SECTION 'B'

(36 Marks)

(SHORT-ANSWER QUESTIONS)

NOTE: Answer any **Nine** part questions from this section. All questions carry equal marks.

Q. 2:

i. Define any Four of the following:

- * Limiting Reactant
- * Significant figures
- * Order of Reaction
- * Boiling point
- * Oxidation State
- * Electrode potential

OR Differentiate any two of the following

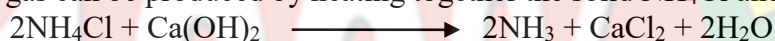
- * Isomorphism and Polymorphism
- * Continuous spectrum and Line spectrum
- * Sigma and Pi bond

ii. The reaction of calcium carbonate (CaCO_3) with hydrochloric acid is given as



If during an experiment 50 g of CaCO_3 is reacted with excess of hydrochloric acid, 14.52 g of CO_2 gas is liberated, calculate the theoretical and percentage yield of CO_2 gas.

OR Ammonia gas can be produced by heating together the solid NH_4Cl and $\text{Ca}(\text{OH})_2$.



If a mixture containing 100g of each of these solids is heated, determine the limiting reactant and the mass of NH_3 gas produced.

iii. State (n + l) wiswesser rule and Hunds rule write electronic configuration of the following:

- * Cl^- (Z= 17)
- * Cr (Z= 24)

OR Write short note on Quantum numbers OR Hydrogen spectrum OR Surface Tension

iv. Draw a molecular orbital diagram of N_2 OR O_2 molecule and write down molecular orbital electronic configuration.

OR Define Hybridization. Mention Sp^3 hybridization with example

v. Define Viscosity? Give its unit and describe the two factors that affect the Viscosity of liquid.

OR Define Hydrogen Bonding .Write its application along with example. OR write down the postulates of kinetic molecular theory.

vi. The pH of Acid rain is 4.4. Calculate the concentration of H^+ ions and OH^- ions in Acid rain.

OR What is Buffer Solution? Give its type and two application. How it maintain pH upon addition of small amount of acid.

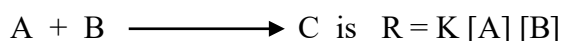
OR Explain Lowery Bronsted concept of Acid and Base. Also write conjugate acid base pair example.

vii. Define rate law. Explain Homogenous and Heterogeneous catalyst along with example.

OR Define unit cell. How can you determine the number of Na^+ and Cl^- ions in one-unit cell of sodium chloride (NaCl)?

viii. The K_{sp} of $\text{Zn}(\text{OH})_2$ is $2.1 \times 10^{-16} \text{ mol}^3/\text{dm}^9$ at 25°C . Calculate its solubility in g/dm^3 . (The atomic mass of Zn = 65.4)

OR The overall rate law for the reaction



If in an experiment the initial concentration of A and B was found to be 0.43M and 0.78M respectively while the initial rate was $3.8 \times 10^{-3} \text{ Ms}^{-1}$. Determine rate constant and mention its unit.

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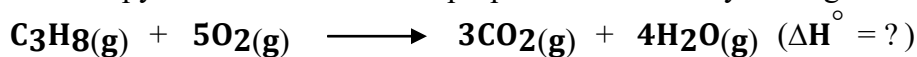
COMPREHENSIVE EXAMINATION 2025-2026

CHEMISTRY H.S.C. PART-I (PRE-ENGINEERING & MEDICAL)

According to the syllabus of the Board of Intermediate Education, Karachi



- ix. 40 dm³ of hydrogen gas was collected over water at 831 torr pressure and 23°C. What would be the volume of dry hydrogen gas at standard conditions? (Vapour pressure of water at 23°C = 21 torr).
- OR State Graham's law of diffusion. The rate of diffusion of an unknown gas is 70.3 cm³/s whereas CO₂ is 60 cm³/s under similar conditions. What is the molecular mass and identity of the unknown gas.
- OR State and explain Dalton's law of partial pressure. 0.2 mole of Gas A and 0.3 mole of Gas B exert a pressure of 750 torr. Find the partial pressure of Gas A and Gas B.
- x. Calculate the enthalpy of combustion of propane at 25°C by the given information.



$$\Delta H_f^\circ \text{ of } \text{C}_3\text{H}_8(\text{g}) = -103.9 \text{ kJ/mol}$$

$$\Delta H_f^\circ \text{ of } \text{CO}_2(\text{g}) = -393.5 \text{ kJ/mol}$$

$$\Delta H_f^\circ \text{ of } \text{H}_2\text{O}(\ell) = -285.8 \text{ kJ/mol}$$

OR What is meant by oxidation number? Determine the oxidation number in following.

- (i) Cr in H₂CrO₄ (ii) S in K₂SO₄ (iii) Fe in Fe₂O₃ (iv) Cl in HClO₄

SECTION 'C'

(32 Marks)

(DETAILED-ANSWER QUESTIONS)

NOTE: Answer any **Four** questions from this section. All questions carry equal marks.

Q.3 Write down the postulates of Bohr atomic theory. Derive expression of radius of nth orbit of Hydrogen gas OR Expression of energy of revolving electron in an orbit.

OR Write postulates of VSEPR theory. Predict the shape of following molecules on the basis of VSEPR theory. AlCl₃, CCl₄, PH₃

Q.4 State Le chatelier Principle. Explain effect of concentration, temperature and pressure or volume on Ammonia Haber process.

OR Explain all types of Crystalline solid along with 3 properties each.

Q.5 State law of mass action. Derive equilibrium constant (K_c) expression of general reversible reaction.

0.2 mole of 'A' and 0.4 mole of 'B' were reacted at a certain temperature and were allowed to come to an equilibrium: A + B ⇌ 2AB, the equilibrium mixture contained 0.1 mole of 'A'; find K_c if the volume of the container was 2 dm³.

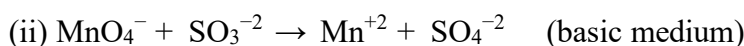
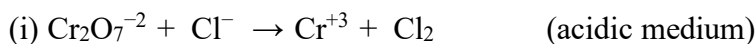
OR What is an ideal gas? Why real gases deviate from ideal behavior? Derive vander Waals equation for the Correction of volume and pressure.

Q.6 What are colligative properties? Explain lowering in vapour pressure, Elevation in boiling point & Depression in freezing point.

OR State and explain first law of thermodynamics. Prove that W = -PΔV and qp = ΔH (Draw diagram where necessary)

Q.7 Define primary and secondary batteries. Describe construction of lead storage battery with the help of labelled Diagram. Explain discharging and recharging of lead storage battery with the help of relevant chemical equation.

OR Determine the electrode potential of zinc. Balance any ONE of the following equations using the ion-electron method:



Atomic Masses (Ca = 40, C = 12, O = 16, H = 1, Cl = 35.5, N = 14)

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EXCELLENCE IN EDUCATION SINCE 1989

COMPREHENSIVE EXAMINATION 2025-2026

COMPUTER STUDIES PAPER-HSC PART-I (SCIENCE GROUP)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 15

Time: 20 minutes

SECTION 'A' (MULTIPLE CHOICE QUESTIONS)

- NOTE:**
- This section consists of 15 part questions and all are to be answered. Each part question carries one mark.
 - This section "A" of Multiple Choice Question (MCQS) must be solved on the MCQs/OMR sheet enclosed on the last page provided E-Sheet & OMR (Examination Copy)
 - The correct answer bubble must be filled on MCQs / OMR sheet 1) (A) (B) (C) (D)
 - Use only blue / black ball point on MCQs/OMR sheet.
 - Avoid pencil / White-o-open/ correction pen/ink remover and gel pen to solve the question on MCQs/ OMR sheet.
 - All notations are used in their usual meanings. The use of scientific Calculator is allowed.

Q. 1: Choose the correct answer for each from the given options:

- FM stands for :**
A) Frequency Modification B) Frequency Modulation
C) Frequency Module D) Functional Module
- The physical layout of a LAN is called:**
A) link B) layer cake C) contention D) topology
- The number of bits and bytes that a microprocessor can manipulate as a unit is called:**
A) word B) unit C) Byte D) String
- It is used to transmit data from memory to microprocessor and vice versa:**
A) address bus B) Data bus C) Control bus D) None of these
- It is the virus that replicates itself to fill up memory space:**
A) Worm B) Trojan Horse C) Time Bomb D) Boot Sector Virus
- Artificial intelligence is the key feature of:**
A) Fourth Generation B) Second Generation C) Fifth Generation D) Third Generation
- CD-ROM is a:**
A) Magnetic Memory B) Optical Memory C) Memory Register D) Chip memory
- The rule $A + AB$ is equal to:**
A) A B) B C) A+B D) A.B
- Any website can be viewed through:**
A) MS-Word B) MS- Power Point C) Browser D) Windows 10
- Processor speed is measured in:**
A) MBPs B) Hertz C) dpi D) Megabyte
- This logical gates needs a single 1 input to produce 1 output:**
A) OR B) AND C) NOT D) NOR
- Hardware and software combination used for connecting similar network is a:**
A) router B) gateway C) bridge D) switch
- .This term is used to describe the data handling capacity of a given media:**
A) MHz B) Frequency C) Byte D) Bandwidth
- Illegal copies of copyrighted software is:**
A) fake B) privacy C) Piracy D) Photocopy
- A group of bits that tells the computer to perform a specific operation is known as:**
A) Instruction code B) Algorithm C) Accumulator D) Register

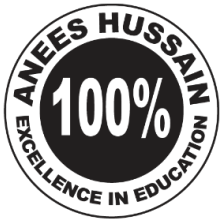
NORTH NAZIMABAD CAMPUS I	NORTH NAZIMABAD CAMPUS II	GULSHAN	NORTH KARACHI	BAHADURABAD	GULISTAN-E-JOHAR	MAYMAR	MALIR
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EXCELLENCE IN EDUCATION SINCE 1989

COMPREHENSIVE EXAMINATION 2025-2026

COMPUTER STUDIES PAPER-HSC PART-I (SCIENCE GROUP)

According to the syllabus of the Board of Intermediate Education, Karachi



Max. Marks: 60

Time: 2 hours 40 minutes

INSTRUCTIONS: i) SECTION 'B' and SECTION 'C' must be solved on provided E-Sheet (Examination Copy).
ii) Student are instructed to write their answers on page allocated for the respective question number.

SECTION 'B'

(SHORT-ANSWER QUESTIONS)

(Marks: 30)

Note: Answer All part questions from this Section. All part questions carry equal marks.

Q. 2:

- i. What do you mean by broadcasting?
OR Which mode of data transmission is suitable for data communication from a computer to a printer?
- ii. Why Rom is called non-volatile memory?
OR How cache memory is different from RAM?
- iii. Discuss modes of data communication by direction.
OR What is meant by modulation and demodulation?
- iv. Define Protocol and its types.
OR Define bandwidth and its types.
- v. Why an Address bus is called unidirectional?
OR Write the difference between Peer-to-Peer model & Client Server model.
- vi. How is internet use in the field of education?
OR What are the uses of computer in medical field?
- vii. Write the difference between impact printer and non-impact printer.
OR Write the difference between Analog signals and Digital signals.
- viii. What is copyright Law?
OR Write the difference between synchronous and asynchronous transmission.
- ix. Convert any three of the following number system.
1. $(0111)_2 = (?)_8$ 2. $(287)_8 = (?)_{10}$ 3. $(6295)_{16} = (?)_{10}$
4. $(1234)_8 = (?)_2$ 5. $(AE909)_{16} = (?)_2$ 6. $(89876)_{10} = (?)_2$
- x. Write full form of any THREE of the following:
* EBCDIC * PROM * BIOS * ISO * SIMM
OR Define Network. List its types.

SECTION 'C'

(DETAILED-ANSWER QUESTIONS)

(Marks: 30)

Note: Attempt All questions from this section. All questions carry equal marks.

- Q3.** Explain OSI model with layered diagram.
OR Explain Communication Media and discuss its different types.
- Q4.** What is system software? Explain operating system and its functions.
OR What is a Monitor? Explain CRT and Flat Panel Monitors with their types.
- Q5.** What are scanning devices? Explain their different types.
OR Explain Computer viruses and its types.

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