
ANEES HUSSAIN
100%
EXCELLENCE IN EDUCATION
PREPARATION PAPER
FINAL TERM EXAMINATION 2025-2026


ENGLISH

PREPARATION PAPER OF XI – ENGLISH FOR 2025 – 2026

SECTION B (SHORT ANSWER QUESTIONS)

PROSE SECTION

THE DEMOCRATIC CITIZENSHIP

1. What does Pakistan mean? Who invented the name and when was it invented?
2. What was Quaid e Azam's vision about religious freedom?
3. How can we make Pakistan prosperous in the light of Quaid's vision?
4. Why was Quaid e Azam feeling honoured while addressing the first constituent assembly?
5. Which is the greatest curse according to the Quaid e Azam?
6. What are the guided principles stated by the Quaid?

ONCE MORE TO THE LAKE

7. Why does E.B White take a vacation at this particular lake?
8. Which key concerns has E.B White has expressed in the text?
9. How are boat motors different in the present situation?
10. Why does E.B White repeatedly call the lake as 'wild lake'?

THE NECKLACE

11. What efforts were made to find Mme? Forestier's necklace?
12. Why did M. Loisel expect him to be pleased to receive the invitation?
13. Describe in your words how Loisel's life changed after they had paid for the new necklace?
14. How was the life of Mme? Loisel before the loss of necklace?
15. What was Mme. Foretier's reaction to seeing Mme'Loisel, she figured out who she was?
16. How had Mme. Loisel's sacrifices been in vain?

TECHNOLOGICAL REVOLUTION

17. How is the technology boon for students?
18. How has technology greatly supported doctors and medical practitioners?
19. What are the benefits of E-Commerce?
20. How did technology contribute in keeping people's lives safe during the recent pandemic or disaster?

MY BANK ACCOUNT

21. What is the effect on Stephen Leacock when he enters a bank to do some business and why did he decide to open an account?
22. What mistake did Stephen Leacock make when he wrote a cheque?
23. Why was there a roar of laughter when the author left the bank?
24. Why is it wiser to keep one's money in the bank than to hoard it at one's home?

SELF RELIANCE

25. What makes a man great and strong according to Ralph Waldo Emerson?
26. What is the mark of genius according to Ralph Waldo Emerson?
27. What does Emerson mean by self-reliance?
28. Explain what is meant by "envy is ignorance in self-reliance?

STRUGGLE FOR AN EDUCATION

29. Why was B.T.Washington inspired to go Hampton?

30. What did B.T.Washington in Richmond in order to reach to Hampton city?
31. What did he have to go through in order to get admission at the Hampton institute?

A VOYAGE TO THE CITY OF LIONS

32. Describe the significance of Singapore port?
33. How does Singapore keep itself clean?
34. Describe briefly the education in Singapore?

CHOOSING CAREER

35. What are the differences between a job and a career?
36. Why should you choose a career that interests you?
37. What is an aptitude test? How does it help in choosing a career?
38. What is the difference between an extroverted person and an introverted person?
39. What causes de-motivation in a career?

PEARLS OF WISDOM

40. What did the wealthy man ask the poor brother and what was his reply?
41. Why could the slave not be pacified even though he was in the same boat with the king?
42. Who is lucky and unlucky according to the maxim?
43. Confide not to a friend every secret thou possess. How do know you that he will not some time become thy foe? How far do you agree and why?

POETRY SECTION

THE CHARACTER OF A HAPPY LIFE

44. Attempt to explain briefly how Sir Henry Wotton's man 'having nothing yet hath all'
45. Why does a happy man pray to God?
46. What is the central idea or theme of the poem?
47. What does the poet mean when says that a happy man does not serve another's will?

DON'T QUIT

48. What is the poet's message in the first stanza?
49. Write the central idea of the poem, 'Don't Quit'.
50. Why does the poet term life 'twists and terns'?

OZYMANDIAS

51. What is the metaphor in the poem, 'Ozymandias'?
52. What is the theme of 'Ozymandias'
53. What irony has been presented in the poem 'Ozymandias'?

GOOD TIMBER

54. What happens to the people who work hard?
55. Write central idea of the poem.
56. How can one achieve one's true potential in life according to the poem?

LUCY GRAY

57. Where did Lucy live and what kind of child she was?
58. Do you think that the tragedy would have been prevented if Lucy's father himself had gone down to the town?
59. Briefly narrate the tragic story of Lucy Gray?
60. What do people still maintain about Lucy Gray and why?

THE ABBOT OF CANTERBURY

61. What was the dispute between the King and the Abbot?
62. What was the shepherd's answer to the first question of the king?
63. What three questions were asked by the king to the Abbot of Canterbury?

64. How was the Abbot benefited by his shepherd's bold answers?

SUR KHAHORI

65. What reward does a Khahori get after his hard work?
66. How is Khahori's character depicted by the poet?
67. Where and why do Khahoris spend their days and nights?
68. Sur Khahori is the narration of Khahoris' struggle. Elaborate.

PLAY

A VISIT TO A SMALL PLANET

69. What extraordinary powers does Kreton possess, and how does he exhibit these powers?
70. How is Kreton able to communicate with the people on earth?
71. Why was Kreton interested in visiting the planet "Erath"?
72. What is ironic about Spelding's broadcast at the beginning of the play?
73. How is media depicted or portrayed in the play?
74. Why was Spelding unhappy about the relationship between Ellen and John?
75. Why is General Powers paranoid about Kreton's visit?
76. Describe the reaction of different characters to Kreton's visit?
77. How did Aide describe Kreton's spaceship?

GRAMMAR SECTION

- CORRECT THE ERRORS IN THE USE OF VERBS,PREPOSITIONS ,ADJECTIVES/ARTICLES/CONDITIONAL)
- DO AS DIRECTED
- CHANGE INTO THE PASSIVE VOIVE
- CHANGE INTO THE INDIRECT SPEECH

SECTION C (DETAILED ANSWER QUESTIONS)

- **Essays topics**
  - ✓ Village Life vs City Life
  - ✓ Science vs Arts
  - ✓ Physical Classes vs Online Classes
  - ✓ City life vs Village life
  - ✓ Physical Games Vs Online Games
  - ✓ Compare and contrast between old and new method of communication
  - ✓ Personal business vs employment
  - ✓ Books vs mobile phones
  - ✓ Electricity shortage
  - ✓ Artificial intelligence vs human brain
  - ✓ Online shopping vs in store shopping

- **Email writing**
  - ✓ To the principal requesting him/her to arrange a study tour to a historical place Moen jo Daro.
  - ✓ To the principal requesting him/her to arrange a seminar regarding "Career counselling"
  - ✓ To the Principal of your college requesting him to call teachers' meeting before exams.
  - ✓ To the Producer of ABC channel requesting for motivational programmes on education.
  - ✓ Write an email to the Principal of your college asking him/her to grant permission for an educational visit to University of Sindh, Jamshoro.
  - ✓ Write an email to the Principal of your college asking him/her to grant permission for participating in Sindh Inter-College Tournament.
- **CV writing**
  - ✓ A well reputed organization requires a receptionist who is fresh graduate. Send a detailed cv/Resume to P.O Box NO. 4040.

- ✓ We are a growing National Company dealing in Pharmaceutical, surgical products. We are looking for SALES SUPERVISOR to be posted at Karachi, The candidates should be a Graduate with work experience of 1-2 years in sales. Interested persons should send a detailed resume along with a handwritten application and a photograph latest by 20th April 2004 to Box No. 57360 c/o
- ✓ Draft a covering letter with a CV in response to the following advertisement: a well-reputed business organization needs the services of a computer-literate graduate with a dynamic personality to work as a manager send a detailed c.v/resume to box no7866 co Dawn Karachi.
- ✓ A well-reputed school in Clifton requires the following staff:
  - Experienced Head for Primary Section.
  - Senior Teachers for Science and English**.**

  The candidate should be a Science graduate with work experience of at least 2 years. Send your Handwritten Resume along with an application to P.O. Box No. 3462, C/o Daily Dawn, Karachi.
- ✓ An established advertising agency seeks proven hard working and experienced male/female with good graphic and computer knowledge. The candidates should be graduate with experienced in graphic designing. Interested persons should send a detailed resume along with a handwritten application box no. 261 c/o

- **Unseen Passages**


URDU

مطالعاتی پرچہ اُردو لازمی برائے جماعت انٹر سال اول

حصہ ''الف'' کثیر الانتخابی سوالات (۲۰)

سوال نمبر ۱ (اس حصہ میں سوالات کا انتخاب پورے نصاب سے کیا جائے گا) (۲۰)

حصہ ''ب'' مختصر سوالات کے جوابات (۴۰)

سوال نمبر ۲: دیئے گئے غزلیات کے اشعار کی تشریح شاعر کے حوالے اور مختصر تعارف کے ساتھ کیجئے۔ (۱۰)

☆مرزا غالبؔ ☆خواجہ میر دردؔ ☆ میر تقی میر

سوال نمبر ۳: دیئے گئے اسباق کے اقتباسات کی تشریح مصنف کے حوالے اور مختصر تعارف کے ساتھ کیجئے۔ (۱۰)

☆قومی اتفاق ☆زبان گویا ☆خطِ غالب

سوال نمبر ۴: درج ذیل اہم نظموں کا مرکزی خیال شاعر کے مختصر تعارف کے ساتھ کیجئے۔ (۱۰)

☆رہے نام اللہ کا ☆چپ کی داد ☆ نوائے سروش ☆ مرد مسلمان

یا

دیے گئے نظموں کے بند کی تشریح شاعر اور نظم کے حوالے کے ساتھ کیجیے۔

☆رہے نام اللہ کا ☆داستان تیاری میں باغ کی ☆یارب! چمن نظم کو گلزارِ ارم کر

سوال نمبر ۵: درج ذیل میں سے کسی ایک سبق کا خلاصہ اور مصنف کا مختصر تعارف کیجئے۔ (۱۰)

☆میدان جنگ ☆زیور کا ڈبہ ☆بیگم کی بلی ☆فاقے میں روزہ

حصہ ''ج'' (بیانیہ جواب کے سوالات) (۴۰)

سوال نمبر ۶: مندرجہ ذیل میں سے کسی ایک شاعر کے کلام کی خصوصیات پر تبصرہ کیجئے۔ (۲۰)

☆مرزا غالبؔ ☆خواجہ میر دردؔ ☆میر تقی میر ☆علامہ اقبال

سوال نمبر ۷: مندرجہ ذیل میں سے کسی ایک نثر نگار کے طرزِ تحریر کی خصوصیات پر تبصرہ کیجئے۔ (۲۰)

☆سر سید احمد خان ☆خواجہ حسن نظامی ☆منشی پریم چند ☆الطاف حسین حالی


ISLAMIAT

PREPARATION PAPER OF XI – ISLAMIAT

SECTION – A

(Multiple Choice Questions)

- Questions in this section will be selected from the entire syllabus

SECTION – B

Ayat o Ahadees:

- Surah Al-Anfal OR Surah Al-Baqarah (complete)
- Hadith (complete)

Short Questions

1. Write down the dictionary and terminology of Wahi./write down the kind of wahi.
2. Write any five attributes of the Holy Quran and their meanings.
3. Explain the types of revelation.
4. Why was there a need to compile the Quran during the era of the companions?
5. Why did Hazrat Usman prepare and spread the Quran in the Quraishi dialect?
6. Give a brief introduction to Surah Al-Baqarah. Why did the hypocrites mock the believers?
7. What are the disjointed letters (Haruf-e-Muqatta'at)?
8. What is hypocrisy? Explain any one example from Surah Al-Baqarah (verses 18-20) regarding the hypocrites.
9. What did Allah say regarding the example of the mosquito? On what basis did the angels question the creation of Hazrat Adam?
10. Explain the meaning of Anfal (spoils of war) and Fai (war booty).
11. What attributes of the believers are mentioned in Surah Al-Anfal?
12. What instructions are given to the believers in Surah Al-Anfal regarding encounters with disbelievers?
13. What things are a trial for the believers?
14. Why did the disbelievers say that the Quran is "In huwa illa asateer al-awwalin" (nothing but tales of the ancients)?
15. What is meant by Al-Aduwah Ad-Dunya and Al-Aduwah Al-Quswa?
16. Give an example of the Prophet's mercy towards women.
17. What administrative changes were introduced by the Holy Prophet (PBUH)?
18. Explain the benefits of patience and perseverance.
19. What example of patience can be learned from the Prophet's life in Makkah?
20. State the negative effects of the lack of justice and fairness on society.
21. Write the literal meaning of Islamic brotherhood.
22. Explain the rights of non-Muslims.

23. What was the status of women before Islam?
24. Why does Islam emphasize unity and consensus?
25. What is the ancestral and maternal lineage of Imam Ja'far al-Sadiq?
26. Which prominent personalities benefited from Imam Ja'far al-Sadiq?
27. Who were the teachers of Imam Abu Hanifa?
28. Name the book of Hazrat Imam Malik and state its importance.
29. Mention the works of Hazrat Imam Shafi‘i.
30. From which sources did Hazrat Imam Ahmad bin Hanbal acquire his knowledge?
31. Explain the economic benefits of Zakat.
32. How did Satan react when he saw the angels descending to help the Muslims during the Battle of Badr?
33. What reasons are mentioned in Surah Al-Anfal for the destruction of past nations?
34. What equipment is needed for jihad in the present era?
35. What is meant by Fidya?
36. What instructions did Allah give regarding prisoners of war in Surah Al-Anfal?
37. Write the names of the authors of "Usul-e-Arba'ah" (The Four Principles).
38. Write the names of the authors of "Sahah-e-Sittah" (The Six Authentic Hadith Collections).
39. Explain that actions are based on intentions.
40. Explain the meaning and benefits of Silah-e-Rahmi (Maintaining family ties).
41. Explain the types of Tawhid (Oneness of God).
42. Explain the meaning of Khatm-e-Nubuwwat (Finality of Prophethood).
43. Write the names of the four famous angels and their duties.
44. What is meant by Alam-e-Barzakh (The Intermediate Realm)?
45. Write the names of the four famous heavenly books and the prophets on whom they were revealed.
46. What is worship?
47. When and to whom was the obligation of prayer revealed?
48. What is meant by Sahib-e-Nisab (Owner of the minimum amount of wealth)?
49. What is the virtue of Laylat al-Qadr (The Night of Power)?
50. What is Sa'i (Running between Safa and Marwa)?

SECTION – C

Detailed Questions:

1. Explain the miracles of the Holy Quran in the light of modern science.
2. Describe the concept of Tawhid (Oneness of God) in the light of the Quran and Hadith, and explain its effects on human life.
3. Explain the concept of Risalat (Prophethood), and describe the characteristics of a prophet. What are the unique characteristics of the Prophethood of Muhammad (peace be upon him)?
4. Explain the concept of Khatm-e-Nubuwwat (Finality of Prophethood).
5. Describe the concept of Akhirah (Hereafter), and explain its effects on human life.

6. Explain the importance and virtues of Salah (Prayer), and describe its individual and collective benefits.
7. Describe the importance of Zakat (Charity), its uses, and benefits.
8. Explain the virtues and importance of Fasting (Roza), and describe its effects on human life.
9. Write a detailed article on the life and religious services of Imam Ja'far al-Sadiq.
10. Write detailed notes on the life of Imam Abu Hanifa.

PREPARATION PAPER OF XI – ISLAMIAT

حصہ الف (کثیر الانتخابی سوالات)

اس حصہ میں سوالات کا انتخاب پورے نصاب سے کیا جائے گا۔

حصہ ب (مختصر سوالات کے جوابات)

☆ سورۃ الانفال یا سورۃ البقرہ (مکمل)

☆ احادیث (مکمل)

۱. وحی کی لغوی اور اصطلاحی معنی بیان کیجئے؟ وحی کی اقسام بیان کریں۔

۲. قرآن مجید کے کوئی بھی ۵ صفاتی نام اور ان کا مفہوم لکھیں

۳. قرآنِ مجید کی روشنی میں وحی کی صورتیں بیان کریں۔

۴. عہدِ صدیقی میں قرآن مجید کو جمع کرنے کی ضرورت کیوں پیش آئی۔

۵. حضرت عثمان غنی نے کس وجہ سے قرآن مجید کو قریش کے لہجے میں تیار کر کے پھیلایا؟

۶. سورۃ البقرہ کا مختصر تعارف بیان کریں۔ منافقین مومنوں کا مذاق کیوں اڑاتے تھے؟

۷. حروفِ مقطعات کیا ہیں؟

۸. نفاق کیا ہے؟ سورۃ البقرۃ کی آیات ۸ تا ۲۰ تک منافقین کے لیے دی گئی مثالوں میں سے کوئی بھی ایک مثال بیان کیجئے۔

۹. اللہ تعالیٰ نے مچھر کی مثال سے متعلق کیا فرمایا؟ حضرت آدمؑ کی پیدائش پر فرشتوں نے کس بنیاد پر سوال کیا؟

۱۰. انفالِ غنیمت اور فے کا مفہوم بیان کریں؟

۱۱. سورۃ انفال میں مومنوں کی کون کون سے صفات بیان کی گئی ہے؟

۱۲. کفار سے مقابلے کی صورت میں سورۃ انفال کی آیت میں کیا ہدایات دی گئی ہیں۔

۱۳. مومنوں کے لیے کون سی چیزیں آزمائش ہیں؟

۱۴. مشرکین قرآن مجید کو "ان ھذا الا اساطیر الاولین" کیوں کہہ رہے تھے؟

۱۵. العدوۃ الدنیا اور العدوۃ القصوی سے کیا مراد ہے؟

۱۶. عورتوں کے لیے آپ ﷺ کے رحمت ہونے کی مثال بیان کریں۔

۱۷. حضور اکرم ﷺ بطور منتظم سربراہ کیا تبدیلیاں لائے؟

۱۸. صبر واستقامت کے فائدے بیان کریں۔

۱۹. حضور اکرم ﷺ کی معاف کرنے کی کوئی دو مثالیں بیان کیجئے۔

۲۰. عدل وانصاف نہ ہونے سے معاشرے پر کیا منفی اثرات پڑتے ہیں

۲۱. اسلامی اخوت کے لغوی معنی اور مفہوم بیان کیجیے۔

۲۲. غیر مسلمان کے حقوق بیان کیجئے۔

۲۳. اسلام سے پہلے عورتوں کی کیا حیثیت تھی؟

۲۴. اسلام اتحاد واتفاق کیوں سکھاتا ہے؟

۲۵. حضرت امام جعفر صادق کا آبائی اور ننھیالی سلسلہ نسب کیا ہے؟

۲۶. امام جعفر صادق سے کون کون سی بڑی شخصیات نے فیض حاصل کیا۔

۲۷. حضرت امام ابو حنیفہ کے اساتذہ کا ذکر کیجئے۔

۲۸. حضرت امام مالک کی کتاب کا نام کیا ہے اور اس کی کیا اہمیت ہے؟

۲۹. حضرت امام شافعی کی تصانیف بیان کریں۔

۳۰. حضرت امام احمد بن حنبل حصول علم کے لیے کون کون سے ذرائع سے علم حاصل کیا۔؟

۳۱. زکوۃ کے معاشی فوائد تحریر کریں۔

۳۲. جب غزوہ بدر میں مسلمانوں کی مدد کے لیے نازل ہونے والے فرشتوں کو شیطان نے دیکھا تو کیا ردعمل کیا؟

۳۳. سورۃ انفال کی آیات میں گزشتہ قوموں کی بربادی کے کیا اسباب بتاتے گئے ہیں؟

۳۴. موجودہ دور میں جہاد کے لیے کس ساز وسامان کی ضرورت ہے واضح کریں۔

۳۵. فدیہ سے کیا مراد ہے؟

۳۶. اللہ تعالیٰ نے سورۃ انفال میں قیدیوں کے متعلق کیا ارشاد فرمایا؟

۳۷. اصول اربعہ اور اس کے مصنفین کے نام تحریر کریں۔

۳۸. صحاح ستہ اور اس کے مصنفین کے نام تحریر کریں۔

۳۹. اعمال کا دارومدار نیتوں پر ہے تشریح کیجئے۔

۴۰. صلح رحمی کا مطلب اور فوائد بتایئے۔

۴۱. توحید کی اقسام کی وضاحت کریں۔

۴۲. ختم نبوت کا مطلب تحریر کریں

۴۳. چار مشہور فرشتوں کے نام اور کام تحریر کریں

۴۴. عالم برزخ سے کیا مراد ہے

۴۵. چار مشہور آسمانی کتابوں کے نام اور کن انبیاء پر نازل ہوئی تحریر کریں۔

۴۶. عبادت کسے کہتے ہیں؟

۴۷. نماز کی فرضیت کا تحفہ کب اور کسے ملا؟

۴۸. صاحبِ نصاب سے کیا مراد ہے؟

۴۹. لیلۃ القدر کی کیا فضیلت ہے؟

۵۰. سعی کیا ہے؟

حصہ ج (تفصیلی سوالات کے جوابات)

۱. قرآن کے تعارف وفضائل پر نوٹ تحریر کریں۔

۲. عقیدہ توحید بیان کیجئے اور انسانی زندگی پر اس کے اثرات تحریر کریں۔

۳. عقیدہ رسالت بیان کریں نیز رسالت والے منصب کی خصوصیات بیان کرتے ہوئے رسالت محمدی ﷺ کی خصوصیات کیا ہے؟ بیان کریں۔

۴. عقیدہ ختمِ نبوت بیان کریں۔

۵. عقیدہ آخرت کی وضاحت کیجئے نیز عقیدہ آخرت کے انسانی زندگی پر کیا اثرات مرتب ہوتے ہیں تحریر کیجئے۔

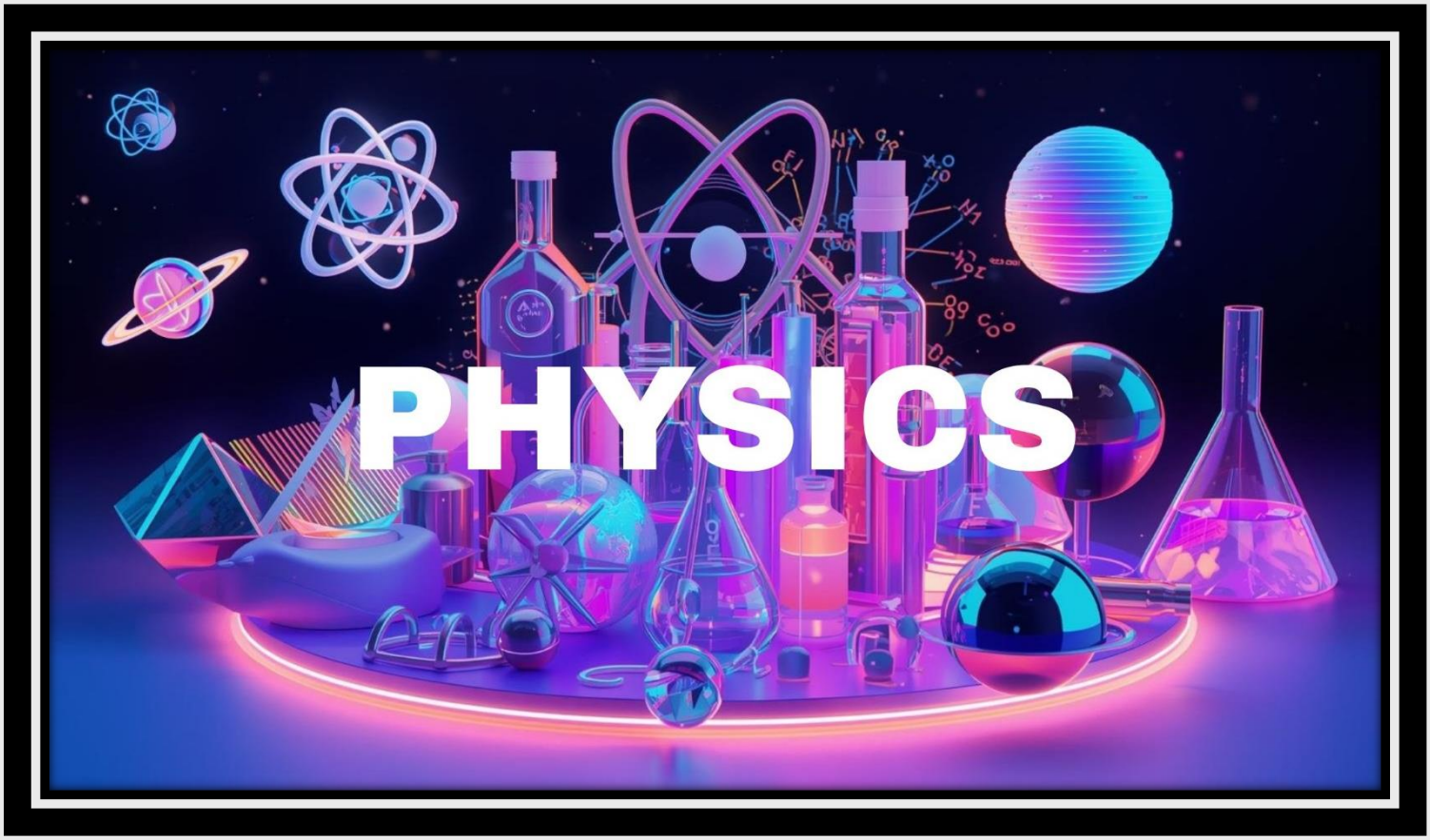
۶. نماز کی فضیلت اور اہمیت بیان کرتے ہیں ہوئے نماز کے انفرادی اور اجتماعی فوائد تحریر کریں۔

۷. زکوۃ کی اہمیت بیان کیجئے نیز زکوۃ کے مصارف اور فوائد بیان کیجئے۔

۸. روزے کی فضیلت اور اہمیت بیان کریں نیز انسانی زندگی پر روزے کے اثرات بیان کریں۔

۹. حضرت امام جعفر صادق کی زندگی اور دینی خدمات کے بارے میں تفصیلی مضمون لکھیں۔

۱۰. حضرت امام ابو حنیفہ کی زندگی پر تفصیلی نوٹ لکھیں۔


PHYSICS

PREPARATION PAPER OF XI – PHYSICS FOR 2025-26

SECTION 'A'

(MULTIPLE CHOICE QUESTION)

Note: It Consist of seventeen MCQs. Each question carries equal marks.

SECTION 'B' & 'C'

(SHORT & LONG – ANSWER QUESTIONS)

CHAPTER # 01 (MEASUREMENTS)

Exercise: Q1, 2, 4, 8 & 9

Solved Example: 1.1, 1.2, 1.3 & 1.4(uncertainty calculation of derived quantities)

DEFINITION/SHORT QUESTIONS:

- Physical quantity
- Base quantity
- Fundamental Unit
- Derived Unit
- Radian
- Steradian
- Define Error. How many types of error are there? Define each of them
- To find out the dimensions of the physical quantities
- Prove that the following equations are dimensionally correct?

(i) $T = 2\pi\sqrt{l/g}$ **(ii)** $T = 2\pi\sqrt{m/k}$ **(iii)** $2as = vf^2 - vi^2$

(iv) $S = vit + \frac{1}{2} at^2$ **(v)** $V = f\lambda$ **(vi)** $E = mc^2$

(vii) $\frac{1}{f} = \frac{1}{p} + \frac{1}{q}$ **(viii)** $v=\sqrt{\frac{T}{\mu}}$ **(ix)** $f=1/2l\sqrt{\frac{TL}{M}}$

(x) $f= 1/2\pi\sqrt{\frac{g}{r}}$

CHAPTER # 02 (KINEMATICS)

Exercise: Q1, 2, 3, 4, 5 & 6

Solved Example: 2.1, 2.3, 2.4 & 2.5

DEFINITION/SHORT QUESTIONS:

- Free Vector
- Unit Vector
- Negative Vector
- Resolution Vector
- Scalar product
- Vector Product
- Projectile motion
- Total time of flight
- Derive three equations of accelerating motion
- What is the significance of area under the velocity-time graph in the context of accelerated motion

THEORETICAL QUESTION

- Explain the method for the addition of vectors by Rectangular Component method
- What is projectile motion? A shell is fired with a velocity Vo at an angle θ with the horizontal to target at the ground level. Derive the expressions for:

  i) Total time of flight ii) Horizontal range iii) Height of projectile

  iv)Time to reached maximum height
- Define scalar product and vector product. Show that the commutative property of dot product A.B = B.A

CHAPTER # 03 (DYNAMICS)

Exercise: Q1, 2, 3, 4, 6 & 7

Solved Example: 3.1 & 3.2

DEFINITION/SHORT QUESTIONS:

- Force
- Dynamics
- Elastic collision
- Unbalance force
- Linear Momentum
- Impulse
- Statics Friction
- Coefficient of friction
- Negative acceleration
- Prove that force can be defined as a rate of change in momentum
- State and Explain Law of conservation of linear momentum
- Prove that angle of repose is equal to angle of friction
- Prove that tangent of angle of friction is equal to coefficient of friction

THEORETICAL QUESTION

- Define Elastic and Inelastic collision. Determine the equation for the final velocities of two bodies colliding elasticity

CHAPTER # 04 (ROTATINAL & CIRCULAR MOTION)

Exercise: Q1, 2, 4, 5, 6, 7, 8, 10 & 11

Solved Example: Example: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 & 4.7

DEFINITION/SHORT QUESTIONS:

- Angular displacement
- Angular velocity
- Angular Acceleration
- Radian
- Centripetal Acceleration
- Centripetal Force
- Moment of Inertia
- Torque
- Angular Momentum
- What is meant by banking of curve derive the expression of the angle dependent of bank curve and the maximum speed of moving body on the bank curve
- Derive the relation b/w **(a)** linear and angular velocity $V = r\omega$ **(b)** linear and angular acceleration $a = r\alpha$
- Define Orbital velocity and derive an expression for orbital speed satellite orbiting round the earth t some the altitude (OR) Orbital period of a satellite orbiting around Earth(keppler's third law of planetary motion)

THEORETICAL QUESTION:

- Define centripetal acceleration. Drive the formula $a_c = rw^2$
- State and proof Law of conservation of Angular momentum

CHAPTER # 05 (WORK POWER& ENERGY)

Exercise: Q1, 2, 4, 5, 6, 7, 9, 10 & 11

Solved Example: 5.2, 5.3 & 5.4

DEFINITION/SHORT QUESTIONS:

- Work done
- Power
- Energy
- Conservative field
- Kinetic Energy
- Potential Energy
- Absolute Potential Energy
- Escape Velocity
- Gravitational Potential Energy
- Explain the term "power" and give its dimensions and its units. Prove that power is scalar product of force and velocity
- What is work energy theorem how it is expressed mathematically
- Define work done by variable force. Calculate the work done from force-displacement graph

THEORETICAL QUESTION:

- Define Gravitational field and conservative field and Show that Gravitational field is conservative field and it is independent of the path followed by the body?
- State and proof Law of conservation of Energy.

CHAPTER # 06 (FLUID STATICS)

Exercise: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

Solved Example: 6.1, 6.2, 6.3, and 6.6

DEFINITION/SHORT QUESTIONS:

- Fluid
- Fluid statics
- Up thrust
- surface tension
- Buoyancy
- State and explain Archimedes Principle and find gold purity by using density(work example#6.2)
- What is meant by buoyancy discuss it in liquid and gases
- Describe law of flotation in liquid and gases
- Distinguish between flotation and up thrust

THEORETICAL QUESTION:

- State Pascal's Law. Describe the applications of Pascal law in Hydraulic brake and Hydraulic lift.
- Define Surface tension and also discuss it with at least three experiments/examples

CHAPTER # 07 (FLUID DYNAMICS)

Exercise: 1, 2, 3, 4, 5, 7, 8, 9 & 10

Solved Example: 7.1, 7.2 & 7.4

DEFINITION/SHORT QUESTIONS:

- What is the difference between stream line and turbulent flow?
- State Bernoulli's principle
- Describe terminal velocity in liquids

THEORETICAL QUESTIONS: .

- Derive equation of continuity. Also show it physical significance
- Derive Bernoulli's equation with its two applications
- Discuss viscous force in fluids. Define fluid dynamics explain its significance in the study flow of fluids.

CHAPTER # 08 (ELECTRIC FIELD)

Exercise: 1, 2, 3,4, 8, 9 & 10

Solved Example: 8.1, 8.2, 8.4, 8.5, 8.7 & 8.8

DEFINITION/SHORT QUESTIONS:

- Electrostatics Force
- Charge
- Permittivity of medium
- Electric field
- Electric field Intensity
- Electric flux
- Potential difference
- Define electric flux and also derive its mathematical condition for maximum and minimum flux
- Derive the formula for the electric flux of close sphere?

THEORETICAL QUESTION: .

- State and Explain Coulomb's Law? Derive the formula for the coulomb force in the presence of dielectric medium

- Define Electric field Intensity. Derive an expression for E.F.I due to point charge.
- What is meant by Electric potential and derive an expression for electric potential due to an isolated point charge.

CHAPTER # 09 (CAPACITORS)

Exercise: 1, 5, 6 & 7

Solved Example: 9.1

DEFINITION/SHORT QUESTIONS:

- Explain the effect of dielectric on the capacitance of a parallel plate capacitor
- Derive an expression for the energy stored in capacitor C when there is a potential difference V

THEORETICAL QUESTION: .

- Define capacitance of capacitors derive the factors on which the capacitance of parallel plate capacitors depends.
- Define Electric dipole? Derive an expression for the electric field intensity of an electric dipole

CHAPTER # 10 (D.C CIRCUITS)

Exercise: 2, 3, 4, 5, & 7

Solved Example: 10.1,10.2,10.3 & 10.4

DEFINITION/SHORT QUESTIONS:

- State Kirchhoff's law
- Explain the term power dissipation in resistors
- Define resistor and types of resistors

THEORETICAL QUESTIONS: .

- How is the resistivity of material depending upon the temperature
- What is wheatstone bridge? Derive the relevant mathematical expression to find out the unknown resistance

CHAPTER # 11 (OSCILLATIONS)

Exercise: 1, 2, 3, 4, & 9

Solved Example: 11.1

DEFINITION/SHORT QUESTIONS:

- Time period
- Frequency
- Displacement
- Amplitude
- vibratory motion
- simple harmonic motion
- Discuss the concept of resonance frequency and its relationship to the natural frequency of an oscillating system

THEORETICAL QUESTIONS: .

- A particle is in a state of uniform circular motion. Prove that its projection along one of its diameters executes simple harmonic motion
- Show that the motion of simple pendulum is S.H.M
- What are standing or stationary wave derive expression for the vibrating frequency when it vibrates in one loop two loop to n'th loop

CHAPTER # 12 (ACOUSTICS)

Exercise: 2,3, & 8

Solved Example: 12.1, 12.2 & 12.3

DEFINITION/SHORT QUESTIONS:

- Sound
- Frequency of sound
- Transverse waves
- longitudinal waves
- Factors effecting upon the speed of sound

THEORETICAL QUESTIONS: .

- Discuss the newton formula for the speed of sound wave and in what way did the Laplace correct this formula?
- Define Doppler's effect. Obtain expressions for the apparent frequency of all relevant cases between source and listener.

CHAPTER # 13 (PHYSICAL OPTICS)

Exercise: 1,2,12 13 14 15&17

Solved Example: 13.1, 13.2

DEFINITION/SHORT QUESTIONS:

- Interference of light
- Constructive and destructive interference
- Describe Bragg's Law for X-ray diffraction and derive its mathematical condition
- What is the difference between deviation and diffraction? What do diffraction and interference have in common?
- What is meant by the diffraction of light and derive its mathematical condition for wave length

THEORETICAL QUESTIONS: .

- Describe young's double slits experiment to produce interference pattern for light waves. Explain how can fringe spacing determined?
- Explain construction and working of Michelson's Interferometer.
- Explain thin film interference by Newton's ring.

CHAPTER # 14 (COMMUNICATION)

THEORETICAL QUESTIONS: .

- How many types of modulation are there ?explain each of type of modulation in detail
- What are the main components of satellite? How communication takes place in a satellite Explain three orbits of satellite.


MATHEMATICS

PREPARATION PAPER

XI – MATHEMATICS 2025 – 2026

IMPORTANT QUESTIONS

Chapter # 1	Ex # 1.1: Q # 5, Q # 6 (vii) (viii), Q # 7, Q # 9, Ex # 1.2: Q # 2 (c) (d), Q # 7, Q # 8, Q # 9, Q # 10 Ex # 1.3: Q # 1(i) , Q # 2 (ii) (iv), Q # 3 (i) (ii) (v) Review CH # 1: Q # 4 (ii), Q # 5 (ii), Q # 7
Chapter # 2	Ex # 2.1: Q # 7 , Q # 8, Q # 9 , Q #11, Q # 12, Ex # 2.2: Q # 4, Q # 5 Ex # 2.3: Q # 3 (iii) (iv), Q # 7 (iv) Ex # 2.4: Ex # 1, Ex # 2, Ex # 3 (page # 52), Q # 2 (iii) , Q # 3 , Q # 4, Q # 5 Ex # 2.5: Q # 3 (i) (ii), Q # 4 Ex # 2.6: Ex (Page 68), Q # 3, Q # 4, Q # 5, Q # 6 Review Ex # 2: Q # 9, 10 , 11
Chapter # 3	Ex # 3.1: Q # 9, Q # 13, 14 & 15 Ex # 3.4: Q # 5, 7, 8, 9, 10 & 11 Ex # 3.5: Q # 3, 5, 6, 8, 9 Ex # 3.6: Ex # 1, Ex # 2 (Page # 119), Q # 3, 4, 5 & 6
Chapter # 4	Ex # 4.2: Q # 5, 6 Ex # 4.3: Q # 2, 5, 6 & 7 Ex # 4.4: Ex # 4, Ex # 5 (Page # 138), Q # 4, 5, 7, 8 & 9 Ex # 4.5: Ex # 2, Ex # 3, Ex # 4 (Page # 142), Q # 2 , 3, 5 & 6 Ex # 4.6: Q # 2, 3, 4, 6 & 7 Ex # 4.7: Ex # 1, Ex # 2 (Page # 151), 5, 6 & 7 Ex # 4.8: Q # 2, 3, 4 & 5 Ex # 4.9: Q # 2, 4, 5, 7, 8, 9 Review Ex # 4: Q # 3, 5, 8, 9, 10
Chapter # 5	Ex # 5.1: Q # 3, 4, 6, 7, 8, 9 Ex # 5.2: Q # 1, 2, 6, 7, 10 Ex # 5.3: Q # 1, 2, 4 Ex # 5.: Q # 1, 3, 5, 7 Review Ex # 5: Q # 2

Chapter # 6	Ex # 6.2: Ex # 2, Ex # 5 (Page # 186), Q # 4, 9, 10, 11, 12, 16, 17, 18 Ex # 6.3: Ex # 2, 3 (Page # 196), Q # 3, 5, 6, 9 & 11 Ex # 6.4: Ex # 1, 2 (Page 208/209), Q # 1, 3, 4, 6, 7, 8, 10, 11, 12, 14,15, 16 Review Ex # 6: Q # 4, 5, 6, 7
Chapter # 7	Ex # 7.1: Ex # 3, 4, 5, Q # 1 (i) to (x), Q # 2 Ex # 7.2: Q # 5, 6, 7 & 8 Ex # 7.3: Ex # 2 (Page # 234), Ex # 2 (Page 232), Q # 2(ii), Q # 5, 6, 7, 8 & 9 Review CH # 7: Q # 2, 3
Chapter # 8	Ex # 8.1: Q # 12 & 13 Ex # 8.2: Q # 3, 4 Ex # 8.3: Q # 5, 6, 7, 8 Ex # 8.4: Q # 3, 4 & 5, Ex # 2 (Page # 263) Review Ch # 8: Q # 3, 4, 5, 6
Chapter # 9	Ex # 9.2: Q # 1 (i), Q # 2 (i) (ii) Ex # 9.3: Q # 1 (i), (ii) (iv) (vi), Ex # 3 (Page # 278)
Chapter # 10	Ex # 10.1: Q # 5, 6, 7, 8 Ex # 10.2: Q # 2, 5, 6, 7 Ex # 10.3: Q # 1, 2, 3, 8, 9, 12, 13, 15, 20 Ex # 10.4: Ex # 3, Q # 3, 4, 5 Review Ch # 10: Q # 2
Chapter # 11	Ex # 11.1: Q # 5, 7, 8 Ex # 11.2: Q # 8, 9, 10, 11, 13, 14, 15 Ex # 11.3: Q # 1 (iii) (iv) (v), Q # 2, 3, 4 Ex # 11.4: Q # 3, 4, 5, 6 Review Ch # 11: Q # 6, 7, 8, 9, 11, 12, 13
Chapter # 12	Ex # 12.1: Q # 2, 3, 4 Ex # 12.2: Q # 1, 2, 3 Ex # 12.3: Ex #1, 2 (Page # 366), Q # 11, 13, 14,15 Ex # 12.4: Q # 4 , Q # 5 Ex # 12.5: Ex # 3, Q # 7, 8, 9, 10, 12, 13, 14, 15, 17


BIOLOGY

WORKSHEET FOR SESSION 2025 – 2026

SECTION "A" (Objectives)

XI – BOTANY

Note: SEE ALL QUESTIONS GIVEN WITHN NOTES CLASS TEST PAPERS.

SECTION B & C
(SUBJECTIVE QUESTIONS)
CHAPTER 3: CELL STRUCTURE AND FUCTION

LONG QUESTIONS:

1. Describe the structure and functions of following organelles of cell with suitable diagrams:
   - Plastids
   - Nucleus
   - Mitochondria
   - Ribosome
2. Write short notes on:
   - Structure of plasma membrane
   - Lysosome
   - Ribosome
3. Who proposed the fluid mosaic model? Explain the experiment and draw diagrams?

SHORT QUESTIONS:

4. What is cell fractionation? explain
5. Write a note on the following:
   - Differential staining
   - Chromatography
   - Electrophoresis
   - Spectrophotometry
6. What role does endoplasmic reticulum plays in the cell?
7. Write the function of golgi apparatus?
8. Write a note on suicide sacs? Also describe its types?
9. Why is mitochondria called the power house of the cell? Explain briefly?
10. Write a role of glycoproteins and Glycolipids as cell surface markers.
11. What is cytoskeleton?
12. Define the term cyclosis.
13. Write a note on vacuoles.
14. Define plastids with its types and existence in different parts of plants?
15. How centriole is important in cell division?
16. What are chromosomes? Explain its types.
17. Describe the structure of nucleus?
18. Distinguish between:
    - Prokaryotic and eukaryotic cell
    - Cell wall and cell membrane
    - Glyoxysomes and peroxisome
19. Write a short note on a cell wall?
20. Explain the structure of RER and SER?
21. What do you know about the structure of ribosomes?
22. Write a note about peroxisomes and glyoxisomes?
23. Why plant cell wall is rigid?
24. Why plasma membrane is semipermeable in nature ?
25. Write a note about chloroplast and why it is term as energy converting organelle?

CHAPTER 4: BIOENERGETICS

LONG QUESTIONS:

1. Define photosynthesis. Describe the light reaction of photosynthesis.
2. Describe in detail the process of Glycolysis or Kreb's cycle.
3. Define photosynthesis. Describe the fixation of CO_2 during photosynthesis (dark reaction) OR
4. What do you mean by energy flow in an Ecosystem? What is the role of this flow in the living world?
5. Explain in detail the light dependant reaction?
6. Describe the Calvin cycle with diagram?
7. Explain Aerobic and Anaerobic respiration with equations?

SHORT QUESTIONS:

8. Write the photosynthetic reactants and products in an equation and explain the reaction?
9. Define the following:
    - Photophosphorylation
    - Substrate level phosphorylation
    - Oxidative phosphorylation
10. What are chloroplasts? How are they important in chemiosmosis?
11. Describe all the photosynthetic pigments?
12. Explain the role of light in photosynthesis.
13. Explain photorespiration.
14. Mention the importance of light in the process of photosynthesis?
15. Explain the role of carbondioxide in photosynthesis?
16. Explain the role of water in photosynthesis?
17. What do you know about the absorption spectrum of chlorophyll a and b?
18. What are the three distinct phases of of calvin cycle?
19. Write a note about c4 cycle?
20. Write a note about CAM?
21. What are the effects of temperature on photorespiration?
22. What are the disadvantages of the process known as photorespiration ?
23. Why antenna complex contains other pigments with chlorophyll?
24. Why photosynthesis is called redox reaction?
25. Hoe cyclic photophosphorylation helpful in the photosynthesis?
26. Why ATP is called common energy currency?
27. Why calvin cycle called as C3 cycle?
28. Why CAM plants close stomata during day time?
29. Why oxidation of pyruvate provides more energy than fermentation of lactic acid?

CHAPTER 5: ACELLULAR LIFE

LONG QUESTIONS:

1. Describe the life cycle of a bacteriophage virus and also explain lytic and lysogenic cycle?
2. Define HIV and explain life cycle of HIV virus with the help of its labelled diagram?

SHORT QUESTIONS:

3. Draw the lytic cycle of bacteriophage?
4. Draw a diagram of bacteriophage virus.
5. Briefly describe the life cycle of bacteriophage?
6. What are prions and viroids?
7. Write a short note on AIDs?
8. What are the living and nonliving character of viruses?
9. Explain the general structure of of virus?
10. Explain the classification of virus by genome, host , and shape?
11. What do you know about the structure of bacteriophage?
12. What are the symptoms and treatment of AIDS?
13. What do you know about the HIV specificity?
14. Write a short note about following viral diseases:

(a) Hepatitis
(b) Herpes
(c) Polio
(d) Cotton leaf curl disease

15. What do you know prions?
16. Why bacteriophage only attacks bacteria?
17. Write difference between following:
    (a) Lysogenic and lytic phase
    (b) Virus and prions
18. How virus survive without host?
19. Write a note about following:
    (a) Chikungunya
    (b) Dengue
    (c) Ebola
    (d) Hepatitis C
    (e) Measles
    (f) Corona

CHAPTER 6: PROKARYOTES

LONG QUESTIONS:

1. Briefly explain the process of reproduction in bacteria.
2. Explain in detail about the mode of nutrition in bacteria?
3. Write a note about following bacterial diseases:
    (a) Cholera
    (b) Typhoid
    (c) TB
    (d) Pneumonia

SHORT QUESTIONS:

4. Describe the different types of nutrition in bacteria?
5. Differentiate b/w aerobic and anaerobic respiration?
6. Draw a labeled diagram of Bacterium?
7. Classify bacteria on the basis of forms (shapes)?
8. How endospore formation occur in bacteria?
9. Describe the process of growth in bacteria.
10. Write a note on reproduction in bacteria?
11. Do comparision of domain system classification ?
12. What are the major groups of bacteria?
13. Role of cyanobacteria as photosynthetic bacteria?
14. Exlpain the structure of bacteria ?
15. Write difference between gram positive and gram negative bacteria?
16. Explain endospore formation in bacteria?
17. Explain the motality in bacteria?
18. Write down the structure of bacterial flagellum?
19. Write about the genomic organization of bacteria?
20. Explain the growth in bacteria?
21. Write a note about mutation and genetic recombination in bacteria?

CHAPTER 7: PROTOCTISTIS AND FUNGI

LONG QUESTIONS:

1. Describe the structure and reproduction in ulva? Also explain alternation of generations?
2. What are plant like protoctists? Explain with examples and diagrams where necessary?
3. Briefly enlist the general characteristics of fungi.

SHORT QUESTIONS:

4. Describe the reproduction in Ulva?
5. Draw only the diagrammatic life cycle of Ulva (no description)?
6. Draw a neat and labeled diagram of ulva?
7. Draw a labeled diagram of Euglena?
8. Write a short note on slime molds?
9. Write a note on Oomycotes?
10. What are phytophthorainfestants?
11. Draw a life cycle of late blight of potato.
12. Draw a life cycle of Mucor.
13. Describe the body of fungus?
14. Write the classification of fungi according to nutrition?
15. Write a short note on mycorrhizae and lichens?
16. Write a note on importance of fungi? (Ecological, economical and commercial)

CHAPTER 8: DIVERSITY AMONG PLANTS

LONG QUESTIONS:

1. Describe the process of fertilization in an angiospermic plant?
2. What changes occur in the ovule after fertilization?
3. Describe the life cycle of fern. Illustrate your answer with reference to alternation of generations?
4. Define Alternation of Generation. Describe briefly the life cycle of an Angiosperm or selaginella?

SHORT QUESTIONS:

5. Explain the life cycle of bryophyte.
6. Explain the subdivisions of class tracheophyta with examples?
7. How plants adapted land habitat?
8. Write a short note on evolution of leaf?
9. Vascular plants are successful land plant. Explain
10. Describe the evolution of seed?
11. Write a short note on andiantum(maiden hair fern)? Also draw diagram?
12. write down general characteristics of gymnosperm.
13. Explain the phenomenon of double fertilization?
14. Differentiate between
    - Bryophytes and tracheophytes
    - Angiosperm and gymnosperm
    - Monocotyledon and dicotyledon
    - Lycopsida and sphenopsida
15. Define the terms Heterospory, Heterogamy?
16. Draw an outline of the cassification of kingdom Plantae?
17. Why do we say that sporophyte of anthocerotae shows many advanced characters suitable for land environment?
18. Describe the structure of T.S. of Marchantia Thallus.
19. Draw the labeled diagram of gametophyte of fern.
20. Define inflorescence. Explain racemose and cymose inflorescence with its types.

CHAPTER 10: FORMS AND FUNCTION IN PLANTS

LONG QUESTIONS:

1. Describe the role of important mineral nutrients and their deficiency symptoms in plants.
2. How does the pressure flow hypothesis explain in the movement of sugar throughout the plant? Illustrate your answer with the help of a diagram?
3. Define Ascent of sap? Describe its mechanism?
4. Describe in detail the adaptations made by the plants in order to survive during drought condition.
5. Write a detailed note on growth regulator hormone.

SHORT QUESTIONS:

6. Write down the role of some micronutrients.
7. What are methods of nutrition in plants?
8. Describe how nutrition takes place in insectivorous plants.

9. What are autrotrophs?
10. What is photorespiration? Also write its consequences?
11. Briefly describe how gaseous exchange in plants takes place?
12. Explain the pathways available for water to enter the xylem.
13. Write a short note on the following:
    - Source and sink movement
    - plasmolysis and deplasmolysis
    - Hydrophytes
    - Mesophytes
    - Halophytes
14. Differentiate b/w osmosis and diffusion.
15. How plants survive during high and low temperature?
16. What is annual ring? Explain.
17. Describe various processes involved in the uptake of water and minerals in plants. Write a note on vessels and tracheids.
18. Define vascular tissues and only name the elements of Xylem and Phloem.
19. Explain the pressure flow theory?
20. Describe the three types of transpiration depending upon the route of escape of water vapours from aerial parts of plants?
21. Briefly define root pressure theory?
22. Write down the note on the following>
    - Parenchyma
    - Collenchyma
    - Sclerenchyma

SECTION "A" (Objectives)

XI – ZOOLOGY

Note: SEE ALL QUESTIONS GIVEN WITHN NOTES CLASS TEST PAPERS.

SECTION B & C
(SUBJECTIVE QUESTIONS)
CHAPTER 1: BIOLOGICAL MOLECULES

LONG QUESTIONS:

1. Write a detailed note on structure of protein? Also draw diagram?
2. What are carbohydrates? Explain its structural classifications with example?
3. Define nucleic acids with its two main types? Also describe the types of RNA?

SHORT QUESTIONS:

4. Write a note on structure of gene.
5. How is carbon atom important for conservation of oxygen in human body?
6. Explain terpenoids and its types.
7. Write a short note on importance of water?
8. Explain what is gene?
9. What are lipids? Give types with equations?
10. What are the two types of protein according to their function?
11. Define conjugated molecules? Also name some?
12. Write about the classification of carbohydrate according to taste , reducing and non reducing and by numbers of carbon atom?
13. Give the types of protein based on structure ?
14. Differentiate between saturated and unsaturated lipid ?
15. Explain the structure of DNA?
16. What are the types of RNA?
17. What are the steps in nucleotide formation?
18. Explain the peptide linkage formation?

CHAPTER 2: ENZYMES

LONG QUESTIONS:

1. What are enzymes? Give the types of enzymes and their mode of action. Also explain the factors that affect their activity.
2. Who proposed the key lock theory? Explain the theory and also draw a diagram?
3. Who proposed the induced fit model? Explain the theory ?

SHORT QUESTIONS:

4. What is an enzyme substrate complex?
5. In what ways are enzymes specific?
6. Write a short note on inhibitors with all its types?
7. Differentiate between:
8. Holoenzyme and apoenzyme
9. Enzyme activator and enzyme inhibitor
10. Exoenzyme and endoenzyme
11. State the factors affecting enzyme activity?
12. Write a note about the structure of enzyme?
13. Write the classification of enzyme based on the chemical reactions ?
14. Explain the feed back inhibition?

CHAPTER 9: DIVERSITY AMONG ANIMALS

LONG QUESTIONS:

1. Write the general characteristics of following phylums?
    - Phylum Parazoa
    - Phylum Ceolentrata
    - Phylum Platyhelminthes
    - Phylum Aschelminthes
    - Phylum Annelida
    - Phylum Mollusca
    - Phylum Echinodermata
    - Phylum Hemichordate
2. Describe all the classes of phylum chordata in detail with general characteristics?

SHORT QUESTIONS:

3. Draw a chart to show the Phylum and classifications of kingdom Animalia?
4. What is symmetry? Explain with its two types?
5. Differentiate between protostomes and duetrostomes?
6. Distinguish between Diploblastic and Triplobalstic organization?
7. What is body cavity and why it's necessary? Also give all three types of body cavities found in animals.
8. Differentiate between A-sexual and Sexual reproduction?
9. Write the importance of poriferans?
10. What is polymorphism? In which phylum polymorphism is noticed and why?
11. Where coral reefs are found? Mention the phylum and also give economic importance?
12. Define infestation and disinfestations?
13. Mention some harmful and beneficial insects? Also tell why are they harmful or beneficial?
14. Write a note on economical importance on molluscs?
15. Dot down the adaptations of fishes in an aquatic life?
16. How reptiles became first land dwelling organisms? Mention some adaptations?
17. Describe the following subclasses of mammals:
    - Prototheria
    - Metatheria
    - Eutheria

CHAPTER 11: HOLOZOIC NUTRITION

LONG QUESTIONS:

1. Describe the human digestive system in detail? Also draw diagram?
2. Run down the role of accessory gland associated to our gut system.

SHORT QUESTIONS:

3. Write the classification of animals on the basis of nutrition?
4. Define filter feeders, fluid feeders and macrophagous feeders?
5. Write a short note on parasitic nutrition in animals?
6. Explain all the characteristic processes involved in holozoic nutrition?
7. Write the process of digestion in amoeba?
8. Differentiate between tube like and sac like digestive system.
9. Explain the role of gastrovascular cavity of planaria taking part in digestion?
10. What is peristalsis and anti-peristalsis?
11. Explain some disease related to liver.
12. Explain small intestine with digestive activity in its three parts?
13. How is dyspepsia caused? Also give treatment?
14. Differentiate between anorexia and bulimia.
15. What is botulism and how it is caused?
16. What is the disease caused by the accumulation of fat droplets? How it is treated?
17. What are the two diseases related to women with respect to nutrition? Define them?
18. Describe peptic ulcer?

CHAPTER 12: CIRCULATION

LONG QUESTIONS:

1. Write a note on the structure of heart along with a neat labelled diagram
2. Explain cardiac cycle in detail
3. Write a note on CVD's
4. Explain the vascular pathway ?

SHORT QUESTIONS

5. Differentiate between open and close type of circulatory plan
6. Explain single circuit and double circuit plan
7. Explain S.A Node as a pacemaker of the heart
8. Write a note on ECG
9. Write a note on heart sounds
10. Write a note on blood pressure
11. Explain the types of blood vessel
12. Write a note on lymphatic system
13. What are the general characteristics of circulatory system?
14. Explain the phases of heart along with the sound it produces?

CHAPTER 13: IMMUNITY

LONG QUESTIONS:

1. Define immunity. Give a detailed account of Innate and Adaptive immune system?
2. Write a detailed note on the Immune system?
3. Explain cell mediated and antibody mediated immune response.

SHORT QUESTIONS:

4. Give an account on adaptive immune system?
5. Explain the role of digestive tract in immune system.
6. Write a note on transplant rejections.
7. Write a note on Pyrexia.
8. Define phagocytosis and name the cell involve in phagocytosis mediated immune response.
9. Write a detailed note on cytotoxicity.
10. Define vaccine. Name types of vaccines.
11. Run down the role of air passage way in first line of defence.
12. Describe the following blood diseases briefly?
    - Allergies
    - Autoimmune disorder
13. Describe the role of skin?

14. Write a note about cytotoxic cell (NK and T cell)
15. Write a note about active and passive immunity?

CHAPTER 14: GASEOUS EXCHANGE

LONG QUESTIONS:

1. Describe the process of gaseous exchange in humans? Also draw diagram of human respiratory system?

SHORT QUESTIONS:

2. State few properties of respiratory surfaces in animals?
3. What are the components of respiratory system in man?
4. Explain the major functions of respiratory system.
5. Describe three pathways to transport carbon dioxide in blood stream.
6. Explain the process through which carbon dioxide and oxygen is being transported in man.
7. Explain voluntary and involuntary respiration in man?
8. Write a note on sinuses
9. Write a short note on following respiratory disorders:
    - Otitis media
    - Lung Cancer
    - Pneumonia
    - Tuberculosis
    - Emphysema
10. Write the role of respiratory pigments?
11. Describe lung capacities and different lung volumes?
12. Differentiate between inspiration and expiration?


CHEMISTRY

PREPARATION PAPER OF XI – CHEMISTRY FOR 2025 - 2026

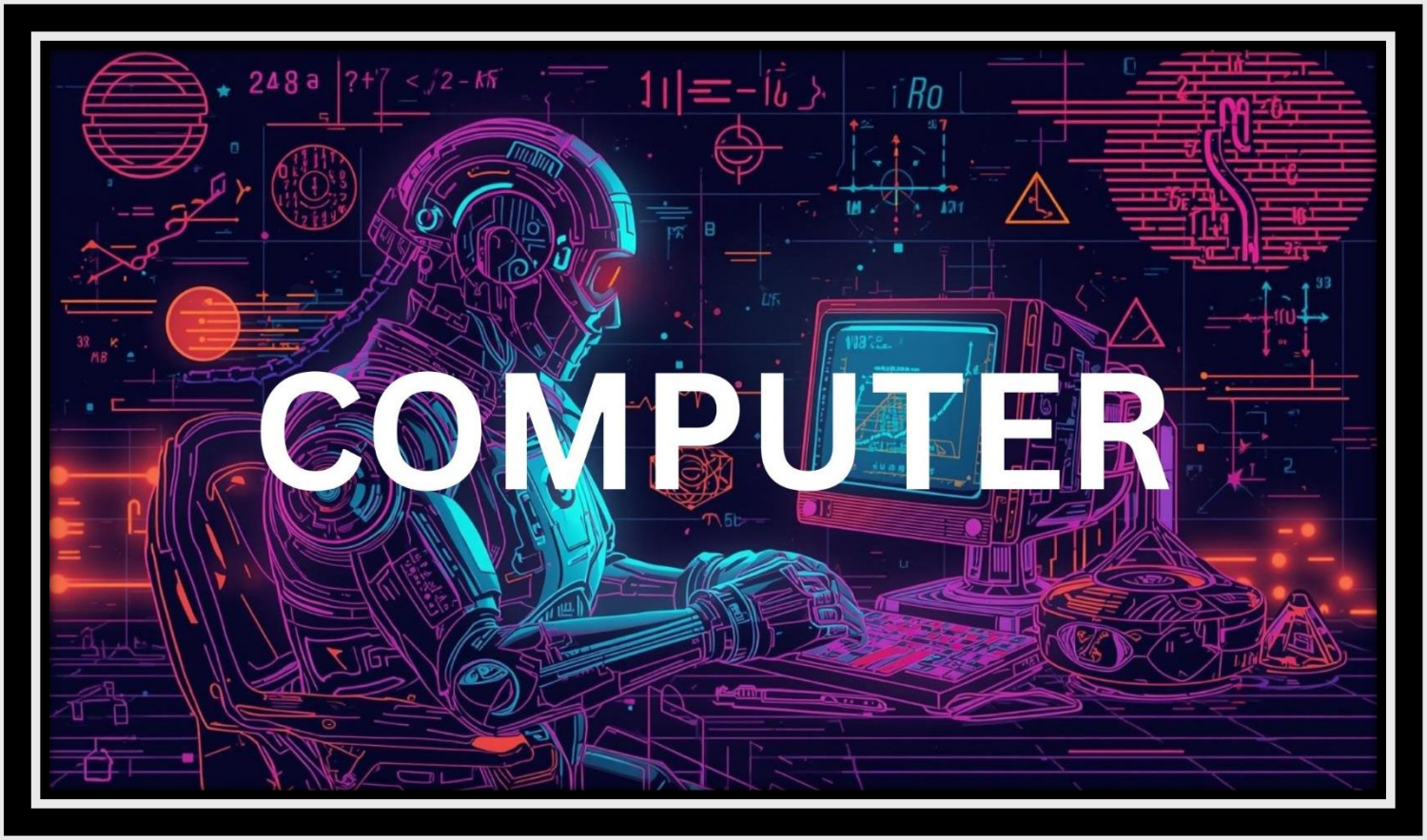
	CHAPTER # 1 Stoichiometry	
(i)	Define (i) Limiting Reactant (ii) Avogadro's number (iii) Molar volume (iv) Rounding off (v) Exponential notation (vi) Theoretical yield (vii) Actual yield (viii) Percentage yield	Short
(ii)	Why the practical yield is oftenless than theoretical yield?	Short
	NUMERICALS Do practice from book exercise and solved example **Topics** (i) Limiting reactant and its numerical. (ii) Numerical; Mass – Mass and Mass-Volume stoichiometric relationship. (iii) Percentage Yield.	
	CHAPTER # 2 Atomic Structure	
(i)	Differentiate between Continuous and Linespectrum.	Short
(ii)	Give three properties of each α , β and y rays.	Short
(iii)	Write down the electronic configuration ofthe following ▪ Fe (Z=26), Cr (Z=24), Br^- (Z=35) ▪ Cu (Z=29), Ca^{2+} (Z=20)	Short
(iv)	Give the statements of the following • Pauli's exclusion principle • Aufbau Principle • Wiswesser Rule (n+ l) • Hunds Rule	Short
(v) (vi)	Discuss the postulates of Bohr's Atomic Theory & derive the expression for radius and the energy of Hydrogen atom. $(r = \frac{\varepsilon_0 n^2 h^2}{z\pi m e^2})$ Drive an expression for the frequency and wave number of radiation emitted from an electron. Given that $e = \frac{-mZ^2e^4}{8\varepsilon_0^2 n^2 h^2}$	Long
(vii)	What are X-rays? How are they produced? Give their properties and uses.	Long
(viii)	Write Short note on i) Hydrogen spectrum and ii) quantum numbers	

CHAPTER # 3 Theories of Covalent Bonding		
(i)	Differentiate between the following: • VBT and MOT • Sigma and pi bond • Bonding M.O and Anti bonding M.O	Short
(ii)	Draw a molecular orbital diagram of O_2 molecule and N_2 molecule. • Write down MO electronic configuration. • Determine bond order. • Explain paramagnetic behavior	Short
(iii)	Give scientific reasons: 1. Sigma bond is stronger than pi bond. 2. HF has greater ionic character than HCl. 3. Bond energy of molecules possessing multiple bonds is high. 4. Oil is insoluble in water but soluble in hexane explain why?	Short
(iv)	Predict the shape of following molecules on the basis of VSEPR theory and HOM. $AlCl_3$, CCl_4, PH_3, H_2S. H_2O, NH_3, C_2H_4	Long
(v)	What do you mean by Hybridization? Explain sp^3 hybridization in CH_4 molecule and SP hybridization in C_2H_2 molecule	Long
CHAPTER # 4 States of Matter I: Gases		
(i)	What is an Ideal gas? What are the causes of deviation of real gas from ideal behavior? Explain these deviations at low temperature and high pressure. Derive Vander Waal's equation	Long
(ii)	State and explain Dalton's law of partial pressure. Give practical applications of Dalton's law	Long
(iii) (iv)	State main postulates of kinetic molecular theory of gas. Derive general gas equation. Also deduce the value of R in atm dm^3/mol.K and J/mol.K.	Short
(v) (vi)	Graham's law Postulate of kinetic molecular theory	Short
	NUMERICALS Do practice from book exercise and solved example **Topics** Boyle law, ideal gas equation , Daltons law and grahams law	
CHAPTER # 5 States of Matter II: Liquids		
(i)	Define the following: (a) Molar heat of fusion (b) Molar heat of vaporization (c) Molar heat of Sublimation	Short
(ii)	Write a short note on: (i) Viscosity (ii) Surface Tension	Short

(iii)	What is meant by liquid crystals? How is it differing from liquids and crystalline solid	Short
(iv)	What is hydrogen bond? How is it established? Give its industrial and biochemical applications.	Short
(v)	Give reasons for the following: a. Water spilled on floor evaporate more faster than the same amount of water in a container. b. A falling drop of a liquid is spherical. c. Evaporation is a cooling process. d. Boiling point of liquid remains constant although heat is continuously supplied to the liquid. e. Mercury has its meniscus upward. f. Liquids cannot be compressed as gases do. g. Density of water is highest at 4 ^{o}C. h. Honey is more viscous than water.	Short
(vi)	Explain London dispersion force	
	CHAPTER # 6 States of Matter III: Solid	
(i)	Difference: • Polymorphism and Isomorphism • Crystalline and amorphous solids	Short
(ii)	Define unit cell. Draw a diagram to show its axial distances and axial angles.	Short
(iii)	Give four properties of ionic solids. How can you determine the number of Na^+ and Cl^- ionsin a unit cell of sodium chloride?	Short
(iv)	Discuss all properties of crystalline solid.	Short
(v)	Define lattice energy. Explain how is affected by the size and charge of ion	Long
	CHAPTER # 7 Chemical Equilibrium	
(i)	State and explain the Law of Mass Action.Derive the equilibrium constant for general reversible reaction $mA + nB \Leftrightarrow xC + yD$	Long
(ii)	State Le-Chatelier's principle. And explain Industrial application by Haber's Process and Ostwald process	Short/ Long
(iii) (iv) (v)	Define equilibrium constant (Kc). How it helps in predicting the (i) Direction of reaction (ii) Extent of reaction. Write relation between Kc ,Kp,Kx and Kn. Explain solubility product and common ion effect	Short
	NUMERICALS Do practice from book exercise and solved example **Topics** Kc and Kp relation, Kc value determination, Eq.conc. Solubility product	

CHAPTER # 8 Acid, Bases and Salt		
(i)	Explain Bronsted-Lowry theory of acids and bases. What is meant by conjugate acid base pair give examples?	Short/ Long
(ii)	What is Buffer solution? Explain how it resists the change of pH by adding small amount of acid and base. Give the applications of buffer solution.	Short
(iii)	Describe Lewis theory of acids and bases. What are the advantages of this theory over Lowry Bronsted theory?	Short
CHAPTER # 9 Chemical Kinetics		
(i)	Enlist various factors which influence on the rate of chemical reactions and describe catalysis in detail.	Long
(ii)	Define the following: (a) Rate of reaction (b) Velocity of reaction (c) Order of reaction (d) Rate constant	short
	NUMERICALS Do practice from book exercise and solved example **Topics** Calculation of rate constant, rate, of reaction, order of reaction	
CHAPTER # 10 Solution and Colloids		
(i)	Explain Raoult's law with its three mathematical form	Short
(ii)	Differentiate among true solution, colloidal solution and suspension on the basis of. (i)Particle size (ii) Visibility	Short
	NUMERICALS Do practice from book exercise and solved example **Topics** Raoult's Law	
CHAPTER # 11: (THERMOCHEMISTRY)		
	Short and long Question Answer • **State precisely the meaning of each of the following terms.** i. System and surrounding ii. State and state function iii. Internal energy and Enthalpy iv. Thermodynamics v. Thermochemistry vi. Standard heat of formation and reaction vii. Exothermic and endothermic reaction along with diagram	Short

• Discuss the applications of the First law of thermodynamics at constant pressureand constant volume.	
• State and explain First law of Thermodynamics. Derive pressure-volume work of asystem. • State and explain Hess‟s Law of enthalpy summation. Discuss its applications. • Use the data provided below for the formation of $RbCl_{(s)}$, write thermochemical equations for all the steps involved in the Born Haber cycle and determine theenthalpy of formation of $RbCl_{(s)}$. Sublimation energy of $Rb_{(s)}$ = 82 KJ/mol Ionization energy of $Rb_{(g)}$ = 403 KJ/mol Dissociation energy of $Cl_{2(g)}$ = 242 KJ/mol Electron affinity of $Cl_{(g)}$ = -348.5 KJ/mol Lattice energy of RbCl = -689 KJ/mol	Long
NUMERICALS • Do practice from book exercise and solved example **Topics** Hess law , first law and born haber cycle	
CHAPTER # 12 Electrochemistry	
(i) Define oxidation ,reduction ,redox reaction , oxidizing agent ,reducing agent , Standard electrode potential ,standard hydrogen electrode and salt bridge	Short
(ii) What is electrochemical series ? write its properties	Short
(iii) Determine electrode potential of zinc and copper	long
(iv) Write a short note on Corrosion and its prevention	Short
NUMERICALS Oxidation state numericals Ion electron equation balancing	


COMPUTER

SECTION "B" [SHORT QUESTIONS]

CHAPTER NO.1: BASICS OF INFORMATION TECHNOLOGY

1. Describe the mechanism of a Hard disk.
2. Define an operating system.
3. Why ROM is called non volatile memory?
4. Difference between primary storage and secondary storage;
5. Difference between system software and application software.
6. Why a RAM should be a temporary storage?
7. Difference between serial port and parallel port.
8. Difference between compiler and interpreter.
9. Write any six input and output devices for each and explain any one of them.
10. Difference between analogue and digital signal
11. Difference between hard copy and soft copy.
12. Define application software.
13. What do you know about printer?
14. Differentiate between impact printer and non impact printer.
15. Difference between cache and register.
16. Why do we need backup storage device?
17. Define types of ROM.
18. Difference between :

    * shareware and freeware
    * hardware and software
    * data and information
    * storage and memory

CHAPTER NO.2: BASICS OF INFORMATION TECHNOLOGY

1. Write any three advantages of LAN.
2. How can you define MAN OR WAN.
3. Define star topology with diagram.
4. Write any three features of ring topology.
5. Define bus topology with diagram.
6. What is Mesh topology?
7. Write three advantages of LAN and WAN.

CHAPTER NO.3: DATA COMMUNICATION

1. List out components of data communication.
2. Write any three features of wi-Fi.
3. Describe about fiber optic and twisted pair cable.
4. What is the difference between half duplex and full duplex transmission?

5. What Asynchronous transmission.
6. Difference between logical address and physical address.
7. Define the following:

   * internet * interanet * extranet * E-commerce

   * Freelancing * Drop shipping
8. Define serial transmission and parallel transmission.
9. Difference between encryption and decryption.
10. List out all OSI model layers in standard form.

CHAPTER NO.4: APPLICATION AND USES OF COMPUTER

1. What are the impact of computer in our society?
2. What are the negative impact of computer in our society?
3. Define the following:

   * CBT * CAL * CAD * CAM
4. What are the applications of computer in science, engineering and research.
5. What is Artificial intelligence and virtual reality ?give two examples.
6. What is office automation?
7. What is desktop publishing software?

CHAPTER NO.5: COMPUTER ARCHITECTURE

1. What is the function of computer memory.
2. Define bus and its types briefly.
3. Difference between LIFO and FIFO operation.
4. What are pre fix and post fix notations?

CHAPTER NO.6: SECURITY, COPYRIGHT AND THE LAW

1. Define cyber crime and computer crime.
2. List out some cyber crime and computer crime.
3. Define ethical and unethical hacking.
4. What is cyberbullying?
5. Difference between computer virus and computer malware.
6. List out some computer virus , computer malware and computer antivirus programs.
7. What is the function of worm?
8. Write any three reasons for data loss?
9. Write any three security mechanism used for data security.
10. What is copyright Law?
11. What is software piracy?
12. What is plagiarism?
13. Difference between scam and spam.
14. What is meant by ‘authorize attack’ and ‘unauthorize attack’?

CHAPTER NO.7: OPERATING SYSTEM

1. Define operating system with some popular OS names.

2. Difference between GUI and CLI.
3. What is windows?
4. Define the following:

   * single user * multiuser * single task * multitask
5. Write any four functions of operating system.
6. Write three properties of windows.
7. Define the following:

   * desktop * taskbar * start menu

   * icon * screen saver
8. Difference between soft real time and hard real operating system.

CHAPTER NO.8: WORD PROCESSOR

1. What is word processor?
2. Write any six word processor software.
3. What are the main features of Ms word?
4. Define the following:

   * columns * orientation * hyphenation
5. Write the purpose of the following short cut keys:

   * ctrl+A * ctrl+H * shift+F3

   *ctrl+U * ctrl+x * ctrl+c

   * ctrl+v * ctrl+shift+D

CHAPTER NO.9: SPREAD SHEET

1. Define spread sheet software.
2. Write some features of spread sheet that is not perform by word processor.
3. Define the following :

   * cell address * name box * formula bar
4. Write the purpose of the following short cut keys:

   * ctrl+N * ctrl+O * ctrl+s

   * ctrl+P * ctrl+w * ctrl+Q

CHAPTER NO.10: INTERNET BROWSING AND USING EMAIL

1. What is internet browsing?
2. Write some name of browsing software and search engine software.
3. Write any six web terminologies.
4. Define Email.
5. Difference between Email and postal service.
6. What is DNS?
7. Difference between IP address and DNS.
8. How many types of domain?
9. What is Email Address?
10. Write any four advantages of Email.

11. Write any four disadvantages of Email.

CHAPTER NO.11: NUMBER SYSTEM AND LOGIC GATES

1. What is number system?
2. Practice of all number system conversion.
3. Logic gates with symbol and truth table.
4. Practice for logic circuit designing.
5. Boolean Algebra Rules.

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[DETAILED QUESTIONS]

Note: Attempt any Three questions from this section.

Q.1 Describe guided media with its different types in detail.

Q.2 Describe impact printers with its types in detail.

Q.3 Describe five functions of operating system .

Q.4 Describe CPU with its main components with the help of diagram.

Q.5 How to classify computers by size or capacity and speed? Explain in detail.

Q.6 Define network topology. Also describe different types of network topologies with the help of diagram.

Q.7 Describe different types LAN'S protocol in detail.

Q.8 Describe any four secondary storage devices in detail.

Q.9 Define primary memory. Also describe its major types in detail.

Q.10 Describe computer software with its basic types in detail.

Q.11 Describe any three input devices and output devices with examples.

Q.12 Describe OSI model layers with the help of layer cake diagram.