PUNJAB EDUCATION, CURRICULUM, TRAINING AND ASSESSMENT AUTHORITY

21- E-II, Gulberg-III, Lahore

No: PECTAA/C&C Unit/2026/1239

Dated: 06.11.2026

Director (C & C)

NOTIFICATION

In pursuance of Section 9(1)(b) of the Punjab Education, Curriculum, Training and Assessment Authority Act 2025 and with the approval accorded by the Academics Committee of the Punjab Education, Curriculum, Training and Assessment Authority in its 13th meeting held on 05.11.2026, the Smart Syllabus (Accelerated Learning Programme – ALP / Deleted Topics and Exercise Questions), Pairing Schemes and Model Papers for the Academic Session 2026-27 and BISEs Annual Examination-2027 for Grade-11 **(Annex-A)** are hereby notified for implementation across Punjab.

Director (Curriculum & Compliance)

CC:

1. PSO to the Minister, Government of the Punjab, School Education Department
2. PS to the Vice Chairperson, PECTAA / Parliamentary Secretary for School Education
3. PS to the Chairperson, Chief Minister Task Force for Examination & Assessment
4. PS to the Secretary, Government of the Punjab, School Education Department
5. PS to the Secretary, Government of the Punjab, Higher Education Department
6. PS to the Special Secretary, Government of the Punjab, SED
7. Staff Officer to the Chief Executive Officer, PECTAA
8. PS to all Managing Directors, PECTAA
9. PA to the Secretary, Punjab Boards Committee of Chairpersons (PBCC)
10. PS to the Chairperson, BISE (Lahore, Gujranwala, Rawalpindi, Sargodha, Faisalabad, Sahiwal, Multan, Dera Ghazi Khan and Bahawalpur)
11. PA to all Directors, PECTAA
12. PS to the Programme Director, PMIU
13. PS to Managing Director, Punjab Education Foundation
14. PS to the Chief Executive Officer, Punjab Education Initiatives Management Authority
15. PS to the Managing Director, Punjab Daanish Schools & Centres of Excellence Authority
16. PS to the DPI (Colleges / Secondary Education), Punjab
17. PS to the DPI (Colleges / Secondary Education), South Punjab, Multan
18. PA to all Directors (Education), Colleges, Punjab
19. PS to all Chief Executive Officers (Education), District Education Authorities, Punjab
20. Director (IT), PECTAA for uploading the Notification and the Smart Syllabus (Accelerated Learning Programme-ALP / Deleted Topics and Exercise Questions), Pairing Schemes and Model Papers for Grade-9 on the website of PECTAA.
21. Office File

Annex-A

سمارٹ سلیبس(Smart Syllabus)

(مضمون اُردو برائے گیارھویں جماعت، تعلیمی سیشن: 2026-27

اُردو لازمی برائے جماعت گیارھویں کی درسی کتاب میں سے طلبہ کی سہولت کے پیشِ نظر چار اسباق حذف کیے جا رہے ہیں تاکہ طلبہ بائیس کے بجائے اٹھارہ اسباق پر توجہ مرکوز کرتے ہوئے بھرپور تیاری کر سکیں۔

حذف شدہ اسباق کی تفصیل:۔

حصہ نثر:	1۔ **"چارپائی"**	از	رشید احمد صدیقی، صفحہ نمبر:44 تا49
	2۔ **"پاکستانی زبانیں اور ان کا باہمی رشتہ"**	از	ڈاکٹر ممتاز منگلوری، صفحہ نمبر:90 تا96
حصہ نظم:	3۔ **"کھڑا ڈنر"**	از	سید محمد جعفری، صفحہ نمبر:116 تا119
حصہ غزل:	4۔ **"پتّا پتّا، بُوٹا بُوٹا، حال ہمارا جانے ہے"**	از	میر تقی میر، صفحہ نمبر:121 تا125

امتحانی بورڈ کے پرچہ مرتبین کے لیے لازم ہے کہ سوالیہ پرچہ ترتیب دیتے ہوئے درج بالا اسباق میں سے معروضی، انشائی و دیگر نوعیت کے سوالات میں سے کوئی سوال یا جز شامل نہ کریں۔

PECTAA

Pairing Scheme of Urdu Grade-11

امتحانی پرچہ اُردو لازمی برائے گیارھویں جماعت (XI) کی تیاری کے لیے ہدایات

اُردو لازمی برائے گیارھویں جماعت (XI) کا پرچہ 100 نمبروں پر مشتمل ہو گا۔ معروضی طرز 20 نمبروں پر مشتمل ہو گا اور اس کا وقت 20 منٹ ہو گا۔ انشائی طرز 80 نمبروں پر مشتمل ہو گا اور اس کا وقت 2 گھنٹے 40 منٹ (2:40) ہو گا۔

(نوٹ: بورڈ کے امتحان میں، مصنفین اور شعرا کے تعارف میں سے کسی قسم کا سوال نہیں پوچھا جائے گا۔)

پرچہ مرتبین درج ذیل ہدایات کو پیشِ نظر رکھیں:-

معروضی طرز

سوال	نمبر	ہدایات
سوال:1 کثیر الانتخابی سوالات (MCQs)	کل نمبر:20	**نصابی کتاب:** مجوزہ حصہ نثر میں سے پانچ (5) کثیر الانتخابی سوالات (MCQs) بنائے جائیں۔ ہر ایک سبق میں سے ایک سے زیادہ کثیر الانتخابی سوال نہ بنایا جائے۔ **حصہ قواعد:** اس حصے میں کُل پندرہ (15) سوالات ہوں گے: • تذکیر و تانیث کی اغلاط (پیکٹا (PECTAA) کی تیار کردہ اُردو قواعد و انشا، ص 25 تا 26) اور محاورات (پیکٹا (PECTAA) کی تیار کردہ اُردو قواعد و انشا، ص 35 تا 47) سے متعلق پانچ (05) کثیر الانتخابی سوالات بنائے جائیں۔ • **علم بیان** (تشبیہ، استعارہ، مجاز مرسل، کنایہ) اور **علم بدیع** (صنعتِ تلمیح، صنعتِ مراعات النظیر اور صنعتِ تضاد) میں سے پانچ کثیر الانتخابی سوالات ترتیب دیے جائیں۔ (پیکٹا (PECTAA) کی تیار کردہ اُردو قواعد و انشا، ص 55 تا 59)

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		• **شعری اصطلاحات** (مصرع، شعر، قافیہ، ردیف، مطلع اور مقطع) میں سے پانچ (05) کثیر الانتخابی سوالات ترتیب دیے جائیں۔ **(پیکٹا (PECTAA) کی تیار کردہ اُردو قواعد وانشا، ص 62 تا 63)**

انشائی طرز

سوال	نمبر	ہدایات
سوال:2 اشعار کی تشریح (نظم و غزل)	کل نمبر: 20 جز (الف): 10 نمبر جز (ب): 10 نمبر	**(حصہ اوّل)** **(الف) حصہ نظم:** مجوزہ چھے نظموں (حمد، نعت، اے وادیِ لولاب، او دیس سے آنے والے بتا!، آزادی اور اخلاص) میں سے کوئی دو نظموں کے دو اجزا کا انتخاب کیا جائے۔ نظم سے دو اشعار تشریح کے لیے منتخب کریں۔ طلبہ ان میں سے کسی ایک جز کی تشریح کریں گے۔ **نمبروں کی تقسیم:** نظم کا عنوان: 01 نمبر شاعر کا نام: 01 نمبر تشریح: 08 نمبر **(ب) حصہ غزل:** دو غزلیہ اجزا (تین تین اشعار پر مبنی) دو الگ الگ غزلوں میں سے انتخاب کریں، طلبہ کو ان میں سے کسی ایک جز کی تشریح کرنے کی ہدایت کریں۔ **نمبروں کی تقسیم:** شاعر کا نام: 01 نمبر تشریح: (03+03+03) 09 نمبر

PECTAA

سوال:3 پیراگراف کی تشریح مع سیاق وسباق اور حوالۂ متن	کل نمبر:15	**(حصہ دوم)** مجوزہ آٹھ (08) نثری اسباق (اخلاقِ نبویؐ، فاقہ میں روزہ، مکاتیبِ غالب، ایک اُستاد عدالت کے کٹہرے میں، اور پاکستان بن گیا، نیا قانون، دہلیز اور تاریخ کا کفن) میں سے کوئی دو پیراگراف تشریح کے لیے دیے جائیں۔ طلبہ دو میں سے کسی ایک پیراگراف کی تشریح کریں گے۔ **نمبروں کی تقسیم:** مصنف کا نام: 01 نمبر سبق کا نام: 01 نمبر سیاق وسباق: 03 نمبر تشریح: 10 نمبر
سوال:4 نثری سبق کا خلاصہ	کل نمبر:10	مجوزہ آٹھ (08) نثری اسباق (اخلاقِ نبویؐ، فاقہ میں روزہ، مکاتیبِ غالب، ایک اُستاد عدالت کے کٹہرے میں، اور پاکستان بن گیا، نیا قانون، دہلیز اور تاریخ کا کفن) میں سے کوئی دو اسباق کا خلاصہ پوچھا جائے گا۔ طلبہ ان میں سے کسی ایک سبق کا خلاصہ تحریر کریں گے۔ **نمبروں کی تقسیم:** مصنف کا نام:01 نمبر خلاصہ سبق:09 نمبر
سوال:5 نظم کا خلاصہ / مرکزی خیال	کل نمبر:05	مجوزہ چھے (06) نظموں میں سے دو نظموں کا انتخاب کیا جائے گا اور طلبہ کو کسی ایک نظم کا خلاصہ یا مرکزی خیال تحریر کرنے کو کہا جائے گا۔ **نمبروں کی تقسیم:** شاعر کا نام:01 نمبر خلاصہ نظم یا مرکزی خیال:04 نمبر
سوال:06 مکالمہ / روداد / روزنامچہ	کل نمبر:10	شاملِ نصاب مکالموں، روداد نویسی اور روزنامچوں (بالترتیب، **پیکٹا (PECTAA) کی تیار کردہ اُردو قواعد وانشا، ص100 تا113، ص129 تا140 اور ص140 تا145**) میں سے مکالمہ یا روداد میں سے

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		کوئی ایک تحریر کرنے کو کہیں یا پھر مکالمہ یا روزنامچہ کا انتخاب کرنے کی صورت میں دونوں میں سے کوئی ایک لکھنے کی ہدایت کریں۔
سوال:7 درخواست نویسی / رسید نگاری	کل نمبر:10	اُردو قواعد و انشا میں شامل تمام درخواستیں (نمونہ و مجوزہ) اور نمونے کی رسیدات میں سے ایک درخواست اور ایک رسید کا انتخاب کیا جائے۔ طلبہ درخواست یا رسید میں سے کوئی ایک تحریر کریں گے۔ **پیکٹا (PECTAA) کی تیار کردہ اُردو قواعد و انشا، ص90 تا99۔** **نمبروں کی تقسیم برائے درخواست نویسی:** طرزِ تخاطب:01 نمبر، موضوع / عنوان:01 نمبر، جنابِ عالی!:01 نمبر، نفسِ مضمون:05 نمبر، درخواست گزار کا نام و پتا: 01 نمبر، تاریخ:01 نمبر **نمبروں کی تقسیم برائے رسید نگاری:** باعثِ تحریر آں کہ:01 نمبر نفسِ مضمون:05 نمبر العبد:01 نمبر گواہ شد(1):01 نمبر گواہ شد(2):01 نمبر تاریخ:01 نمبر
سوال:8 تلخیص نگاری	کل نمبر:10	**پیکٹا (PECTAA) کی تیار کردہ اُردو قواعد و انشا، ص75 تا79** میں تلخیص کی غرض سے شامل عبارات (نمونہ و مجوزہ) میں سے ایک عبارت دی جائے، طلبہ عبارت کی تلخیص اور عبارت کا موزوں عنوان تحریر کریں گے۔ **نمبروں کی تقسیم:** موزوں عنوان:02 نمبر تلخیص عبارت:08 نمبر

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ماڈل پیپر

اُردو(لازمی)　　جماعت گیارھویں　　(معروضی طرز)　　کل نمبر:20　　وقت:20منٹ

1۔ہرسوال کے چار ممکنہ جوابات A، B، C اور D دیے گئے ہیں۔جوابی کاپی پر ہرسوال کے سامنے دیے گئے دائروں میں سے درست جواب کے مطابق متعلقہ دائرہ کو مار کر یا پین سے بھر دیجیے۔ایک سے زیادہ دائروں کو پُر کرنے یا کاٹ کر پُر کرنے کی صورت میں مذکورہ جواب غلط تصور ہوگا۔　　**(1x20=20)**

1۔مرزا غالبؔ نے اپنے مکتوب بنام ہرگوپال تفتہ میں بیماری کا ذکر کیا ہے:

(A) علاءالدین خاں علائی کی　(B) میر بادشاہ کی　(C) میر قاسم علی کی　(D) نواب مصطفیٰ خاں کی

2۔رُوم میں چالان کے جرمانے کی رقم جمع کرانے کا عام ذریعہ تھا:

(A) آن لائن　(B) منی آرڈر　(C) چیک　(D) دستی

3۔اُستاد منگو نے لڑائی کی پیشین گوئی کی:

(A) سپین کی　(B) برطانیہ کی　(C) فرانس کی　(D) روس کی

4۔اگر انسان کوئی کام اختیار کرے اور اس پر اِستقلال کے ساتھ قائم رہے، اسے کہتے ہیں:

(A) عادت　(B) جبلّت　(C) فطرت　(D) فطرتِ ثانیہ

5۔مرزا شہ زور رشتے میں ابوظفر بہادر شاہ کے تھے:

(A) بھتیجے　(B) بھانجے　(C) بھائی　(D) رضاعی بھائی

6۔مرض بڑھتا گیا جُوں جُوں دوا۔۔۔۔ :

(A) کے　(B) کا　(C) کی　(D) کیا

7۔مشبہ اور مشبہ بہ کہلاتے ہیں:

(A) طرفینِ تشبیہ　(B) حرفِ تشبیہ　(C) غرضِ تشبیہ　(D) وجہ تشبیہ

8۔وہ لفظ یا الفاظ جو اشعار میں قافیے کے بعد بار بار آئیں، کہلاتے ہیں:

(A) قوافی　(B) ردیف　(C) مستزاد　(D) مصرعے

9۔اشعار میں ردیف سے قبل آنے والے ہم آواز الفاظ کو کہتے ہیں:

(A) قافیہ　(B) ردیف　(C) مطلع　(D) مقطع

10۔''گلی میں نکلا چاند'' میں استعارہ ہے:

(A) گلی　(B) میں　(C) نکلا　(D) چاند

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11۔ کنایہ کے لُغوی معنی ہیں:

(A) ظاہر بات (B) پوشیدہ بات (C) سچی بات (D) جھوٹی بات

12۔ اگر غزل میں دوسرے شعر کے دونوں مصرعے بھی ہم قافیہ ہوں تو اسے کہتے ہیں:

(A) مطلع (B) مطلعِ اوّل (C) مطلعِ ثانی (D) مطلعِ ثالث

13۔ اس۔۔۔۔ عتاب جان لیوا ہے:

(A) کا (B) کی (C) کے (D) کو

14۔ دو مصرعے جو ایک ہی وزن کے ہوں اور ایک ہی خیال کو ظاہر کریں، کہلاتے ہیں:

(A) قصیدہ (B) غزل (C) شعر (D) مصرع

15۔ ان میں سے تلمیح ہے:

(A) لبِ لعلیں (B) ابرِ نیساں (C) داغِ دل (D) حُسنِ یوسفؑ

16۔ ''اُس کی وہ جانے، اُسے پاسِ وفا تھا کہ نہ تھا تم فراز اپنی طرف سے تو نبھاتے جاتے'' یہ شعر اصطلاح میں ہے:

(A) مطلع (B) مقطع (C) مطلعِ ثانی (D) حُسنِ مطلع

17۔ ''آب آب ہونا'' سے مراد ہے:

(A) شرمندہ ہونا (B) غصہ کرنا (C) خوش ہونا (D) پسینہ پسینہ ہونا

18۔ اس قلم۔۔۔۔۔ نِب خراب ہے:

(A) کی (B) کے (C) کا (D) کو

19۔ ''پاپڑ بیلنا'' قواعد کی رو سے ہے:

(A) محاورہ (B) ضرب المثل (C) مقولہ (D) روزمرہ

20۔ صنعتِ تضاد کا تعلق ہے:

(A) علمِ بدیع سے (B) علمِ بیان سے (C) علمِ قافیہ سے (D) علمِ ردیف سے

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انشائی طرز

اُردو(لازمی)　　گیارھویں جماعت　　کل نمبر:80　　وقت:2 گھنٹے 40 منٹ

(حصہ اوّل)

2۔(الف) درج ذیل نظمیہ اجزا میں سے کسی ایک جُز کی آسان تشریح کیجیے۔نظم کا عنوان اور شاعر کا نام بھی تحریر کیجیے:

(10=1+1+8)

کس کے لیے سُرودِ صبا ہے چمن چمن　　کس کے لیے نمودِ ضیا ہے اُفُق اُفُق
مکتوم کس کی موجِ کرم ہے صدَف صدَف　　مرقوم کس کا حرفِ وفا ہے اُفُق اُفُق

یا

فضائیں کر رہی ہیں ذوقِ ایثار و عمل پیدا　　لہو میں دوڑتا ہے شعلۂ تاثیرِ آزادی
لہو موسم نے رویا، گردشِ گردوں نے رُخ بدلا　　مِرے خوابوں میں نازل ہوگئی تعبیرِ آزادی

(ب) درج ذیل غزلیہ اجزا میں سے کسی ایک جُز کی تشریح کیجیے۔شاعر کا نام بھی تحریر کیجیے: (10=1+3+3+3)

چھلکائے ہوئے چلنا، خوش بُو لبِ لعلیں کی　　اک باغ سا ساتھ اپنے، مہکائے ہوئے رہنا
اُس حُسن کا شیوہ ہے، جب عشق نظر آئے　　پردے میں چلے جانا، شرمائے ہوئے رہنا
اِک شام سی کر رکھنا، کاجل کے کرشمے سے　　اِک چاند سا آنکھوں میں، چمکائے ہوئے رکھنا

یا

کس شباہت کو لیے آیا ہے دروازے پہ چاند　　اے شبِ ہجراں! ذرا اپنا ستارہ دیکھنا
کیا قیامت ہے کہ جن کے نام پر پسپا ہوئے　　اُن ہی لوگوں کو مقابل میں صف آرا دیکھنا
جیتنے میں بھی جہاں جی کا زیاں پہلے سے ہے　　ایسی بازی ہارنے میں کیا خسارہ دیکھنا

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(حصہ دوم)

3۔ سیاق وسباق کے حوالے سے کسی ایک جز کی تشریح کیجیے۔مصنف کا نام اور سبق کا عنوان بھی لکھیے: (10+3+1+1=15)

(الف) اب ہم کو کھانے کی فکر ہوئی کیوں کہ اناج سب بھیگ کر سڑ گیا تھا۔گاؤں والوں سے بھی مانگتے ہوئے لحاظ آتا تھا۔وہ بھی ہماری طرح اس مصیبت میں گرفتار تھے،تاہم بے چارے گاؤں کے چودھری کو خود ہی خیال ہوا اور اس نے قطب صاحب سے ایک روپے کا آٹا منگوادیا۔وہ آٹا نصف کے قریب خرچ ہوا ہوگا کہ رمضان شریف کا چاند نظر آیا۔والدہ صاحبہ کا دل بہت نازک تھا۔ وہ ہر وقت گزشتہ زمانے کو یاد کیا کرتی تھیں۔رمضان کا چاند دیکھ کر انھوں نے ایک ٹھنڈا سانس بھرا اور چُپ ہوگئیں۔میں سمجھ گیا کہ ان کو پچھلا زمانہ یاد آرہا ہے۔تسلّی کی باتیں کرنے لگا،جس سے ان کو کچھ ڈھارس ہوگئی۔

(ب) اُستاد منگو کو گوروں سے بے حد نفرت تھی۔جب اس نے اپنے تازہ گاہک کو گورے کی شکل میں دیکھا تو اس کے دل میں نفرت کے جذبات بیدار ہوگئے۔پہلے تو اس کے جی میں آئی کہ بالکل توجہ نہ دے اور اس کو چھوڑ کر چلا جائے مگر بعد میں اس کو خیال آیا اِن کے پیسے چھوڑنا بھی بے وقوفی ہے۔کلغی پر جو مفت میں ساڑھے چودہ آنے خرچ کر دیے ہیں،ان کی جیب ہی سے وصول کرنے چاہییں۔چلو چلتے ہیں۔

4۔ کسی ایک نثری سبق کا خُلاصہ لکھیے اور مصنف کا نام بھی تحریر کیجیے: (10=1+9)

(الف) ایک استاد عدالت کے کٹہرے میں (ب) دہلیز

5۔ کسی ایک نظم کا خلاصہ یا مرکزی خیال لکھیے اور شاعر کا نام بھی تحریر کیجیے: (5=1+4)

(الف) اے وادیِ لولاب! (ب) اخلاص

6۔ دو سہیلیوں کے درمیان کمپیوٹر،انٹرنیٹ کے مثبت اور منفی استعمال پر مکالمہ تحریر کیجیے۔ یا (10)
شجر کاری مہم کی تقریب کی رُوداد قلم بند کیجیے۔

7۔ پرنسپل کے نام شادی میں شمولیت کے لیے رخصت کی درخواست تحریر کیجیے۔ یا (10)
رسید بابت وصولی رقم موٹر سائیکل تحریر کیجیے۔

8۔ درج ذیل عبارت کی تلخیص کیجیے اور مناسب عنوان بھی تحریر کیجیے۔ (10=8+2)

قدرت نے نواب محسن الملک کو بہت سی خوبیاں عطا کی تھیں۔وجاہت،ذہانت،خوش بیانی اور فیاضی ان کی ایسی عام اور ممتاز صفات تھیں کہ ایک راہ چلتا بھی چند منٹ کی بات چیت میں معلوم کر لیتا تھا۔خطاب یا نام اٹکل سے رکھ دیے جاتے ہیں۔مسمّٰی کی خصوصیات

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کا ان میں مطلق لحاظ نہیں ہوتا۔ نام رکھتے وقت تو ممکن ہی نہیں۔ عطائے خطاب کے وقت بھی اس کا لحاظ نہیں کیا جاتا لیکن محسن الملک کا خطاب ان کے لیے بہت ہی موزوں نکلا۔ ان میں پارس پتھر کی خاصیّت تھی۔ کوئی ہو، کہیں کا ہو، اُن سے چُھوا نہیں اور کُندن کا ہُوا نہیں۔ اگر کسی نے سلام بھی کر لیا تو ان پر اس کا بار رہتا تھا اور جب تک اس کا معاوضہ نہ کر لیتے انھیں چین نہ آتا۔ یہاں تک کہ وہ اپنے دشمن کو بھی نہ بھولتے تھے اور یہ میں ذاتی علم سے کہتا ہوں کہ وہ بھی ان کے زیرِ بارِ منّت تھے۔

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Punjab Education, Curriculum, Training and Assessment Authority
Smart Syllabus / Accelerated Learning Program (ALP)
English for Grade-11 (Academic Session: 2026-27)

Four units out of fourteen, have been excluded from the compulsory textbook of English-11 so that the students may study more effectively. Teachers are requested not to teach these units. Students should focus thoroughly on the remaining ten units. It is mandatory for the BISE paper setters to ensure that no objective, subjective, or other types of questions from the following excluded units are included in the question paper.

Details of Excluded Units:

Sr. No.	Unit No. & Name	Pages
1	**Unit 4:** Team Moon	42 to 55
2	**Unit 7:** What You Do is What You are	82 to 94
3	**Unit 9:** Freedom (Poem)	105 to 113
4	**Unit 12:** The Impact of AI on Society, Human Relationships, and Ethics	131 to 138

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Instructions for Preparation of
Exam Paper of English for Intermediate Part I

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of English for Grade-11 will carry 100 marks.

Objective Type = 20 Marks Timing: 30 minutes

Subjective Type = 80 Marks Timing: 2:30 hours

The paper will be made as per following details:

Objective Type (Part-I)		
Time: 30 Minutes		**Max. Marks: 20**
Question No. 1 (Each item will carry 01 Mark.)		
Content taken from:	**Item**	**Marks**
Unit No. 1, 2, 5, 8 and 10 from English-11	5 Synonyms + 3 MCQs from the mentioned units.	8 Marks
Unit No. 3, 6, 11 and 13 from English-11	3 Synonyms + 2 MCQs from the mentioned units.	5 Marks
Unit No. 14 from English-11	2 Synonyms from the mentioned unit.	2 Marks
Unit No. 1, 2, 3, 5, 6, 8, 10, 11, 13, 14 from English-11	5 MCQs to choose correct form of the verb from the mentioned units.	5 Marks

Subjective Type (Part-II)			
Time: 2:30 Hours			**80 Marks**
Section-I			
Question No.	**Content taken from/ Type**	**Details**	**Marks**
Question No. 2	Unit No. 1, 2, 5, 8 and 10 from English 11	Attempt any 7 out of 10 short questions	2 × 7 = 14 Marks
Question No. 3	Unit No. 3, 6, 11 and 13 from English 11	Attempt any 5 out of 8 short questions	2 × 5 = 10 Marks
Question No. 4	Unit No. 14 from English 11	Attempt any 3 out of 5 short questions	2 × 3 = 6 Marks

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Section-II			
Question No. 5	**Letter or Application** From English Grammar and Composition 11-12 by PECTAA	Write a letter or an application (There is a choice between letter and application.)	10 Marks
Question No. 6	**Story** From English Grammar and Composition 11-12 by PECTAA	Write a story from the given two topics.	10 Marks
Question No. 7 (a)	**Explanation of the stanza** taken from Unit No. 3, 6, 11 and 13 of English 11	Explain the given stanza with reference to the context.	5 Marks
Question No. 7 (b)	**Punctuation** taken from Unit No. 1, 2, 5, 8 and 10 of English 11	Punctuate a small paragraph.	5 Marks
Question No. 7 (c)	**Pair of Words** From English Grammar and Composition 11-12 by PECTAA	Use 5 out of 8 Pair of Words in sentences.	5 Marks
Question No. 8	Translation taken from Unit No. 1, 2, 5, 8 and 10 of English 11	Translate English paragraph into Urdu	15 Marks
Question No. 8 (For Foreign and English Medium Candidates)	**Note:** Foreign and English Medium candidate can write an **essay** on the given topic instead of translation. (From English Grammar and Composition 11-12 by PECTAA)		

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MODEL PAPER ENGLISH-11

English (Compulsory) **Time Allowed: 30 Minutes**
Paper-I: Objective Part **Maximum Marks: 20**

Q.1: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill the relevant circle in front of that question number on computerized answer sheet. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question. Attempt as many questions as given in objective type question paper and leave other circles blank.

(a) Choose the correct option in meaning to the underlined words from the columns A, B, C and D and fill up the bubbles: (10)

	Questions	(A)	(B)	(C)	(D)
1.	This **nosegay**, o Khipil, it is for thee to present to thy mistress.	bunch of flowers	smell	gift	plant
2.	This trend is primarily due to increased global greenhouse gas **emissions**.	production and disposal	addition	collection	pressure
3.	I have no doubt that all right-thinking men in Indian dominion **deplore** these happenings.	criticize	control	conflict	accept
4.	The revelation of the Quran initiated a radical **transformation** in the socio-political and moral fabric of Arabia.	hurdle	gap	change	tracking
5.	Pollution can degrade and harm **aquatic** life.	water	village	community	city
6.	He **stirred** his velvet head.	criticized	obliged	moved	mixed
7.	Among the old **folk**.	people	song	dance	friends
8.	You whom this age's way so **captivate**!	repel	bore	fascinate	disillusion
9.	I was doing **calisthenics**.	dancing	collecting	exercise	marching
10.	Darry **dashes** over the fire.	crawl	push	indulge	rush

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(b) Choose the correct answer and fill up the bubbles sheet: (5)

	Questions	(A)	(B)	(C)	(D)
11.	What was the purpose of Hilfal-fudul?	trade	defense of oppressed	political	taxation
12.	How much of the ice in Pakistan's glaciers has already melted?	30 %	45%	55%	60%
13.	Who was Khipil?	mason	poet	builder	coach
14.	The theme of the Echoing Green is:	the cycle of life	play	creation	conflict
15.	Who is the speaker of the poem "Those Winter Sundays"?	a child	doctor	teacher	a moralist

(c) Choose the correct form of verb from the columns A, B, C and D and fill up the bubbles: (5)

	Questions	(A)	(B)	(C)	(D)
16.	She usually _____ her coffee without sugar.	take	takes	took	has took
17.	In his speech Quaid-e-Azam _____the importance of national unity.	is stressing	has stressed	stressed	had stressing
18.	Khipil _____ his body in a sitting posture.	bend	bends	bent	has bent
19.	Music of strange lands with Islam's fire_____.	blend	blends	blended	has blended
20.	Barry _____ dejectedly in a corner.	sit	sits	sitting	had sit

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English (Compulsory) **Time Allowed: 2:30 Hours**
Paper-I: Subjective Part **Maximum Marks: 80**

SECTION – I

Q.2 Write short answers (in 3-5 lines / sentences) of any SEVEN questions of the following: (2 × 7 = 14)

i. What was the charter of Madinah, and how did it create a new system of governance that promoted fairness and equality?

ii. Discuss how did Quaid-e-Azam develop the idea of responsible citizenship and idea of self-reliance.

iii. What is the impact of limited financial and technical resources on climate change in Pakistan?

iv. Discuss some community-based initiatives mentioned for improving access to clean drinking water.

v. How do humour, wit and satire often serve as methods of story-telling to comment on the political and social issues?

vi. Draw a character sketch of Shahpesh in a few lines.

vii. What are water borne diseases?

viii. What did Hazrat Muhammad (ﷺ) say about equality of human race in his last sermon?

ix. What economic challenges did Pakistan face from India after independence?

x. Explain the concept of "Urban Heat Island".

Q.3 Write short answers (in 3-5 lines/sentences) of any FIVE questions of the following:

(2 × 5 = 10)

i. What does Allama Iqbal mean by saying that Europe's civilization to no Makkah bends in the poem "Ruba'iyat"?

ii. Find an example of personification in the poem "Those Winter Sundays" and explain its effect.

iii. What activities are taking place on the Echoing Green?

iv. How does the poem "A Bird Came Down the Walk" explore the concept of natural beauty versus natural brutality?

v. How does the poet portray the spiritual condition of contemporary Muslims in the poem "Ruba'iyat"?

vi. How does the speaker's point of view change from childhood to adulthood in the poem "Those Winter Sundays"?

vii. How do the images of the old people relate with the themes of age and change in time with reference to the "The Echoing Green"?

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viii. What is the significance of speaker observing the bird without the bird's knowledge in the poem "A Bird Came Down the Walk"?

Q.4 Write short answers (in 3-5 lines/sentences) of any THREE questions of the following: **(2 × 3 = 6)**

i. Do you think the farcical elements of the play are effective in conveying a deeper message?

ii. What is the significance of Darry's mistakes and failures in the plays?

iii. Discuss the concepts of morality learned by Darry at the end of the play.

iv. In what ways does the play critique traditional gender roles especially concerning domestic work?

v. How does Barry contribute to the chaos in the play?

SECTION – II

Q.5 Write a letter to your father requesting him to allow you to join the educational tour. **(10)**

OR

Write an application to the principal of your college for full fee concession.

Q.6 Write a story on the moral lesson: **(10)**

"Honesty is the Best Policy" **OR** "Union is Strength"

Q.7 (a) Explain the following lines with reference to the context: (5)

"Till the little ones weary
No more can be merry
The sun does descend,
And our sports have an end:**"**

Q.7 (b) Punctuate the following lines: (5)

freedom however does not mean license it does not mean that you can now behave just as you please and do what you like irrespective of the interests of other people or of the state

Q.7 (c) Use any five of the following pair of words in your own sentences. (1 × 5 = 5)

i. die, dye	ii. waste, waist	iii. principal, principle	iv. sight, site
v. canvas, canvass	vi. bored, board	vii. elicit, illicit	viii. naval, navel

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Q.8 Translate the following passage into Urdu. (15)

"Clean water is vital for agriculture and food production. Inadequate access to clean water can hinder agriculture productivity and food security. Farmers rely on water for irrigation, livestock watering, and crop production."

Alternate Question for Foreign / English Medium Candidates

Q.8 Foreign and English Medium candidate can write an essay on the given topic instead of translation. (15)

"**Village Life**"

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Punjab Education, Curriculum, Training and Assessment Authority

تسریع التّعلّم پروگرام (ALP)

برائے مضمون اسلامیات لازمی جماعت گیارھویں

تعلیمی سیشن 27-2026

اسلامیات لازمی جماعت گیارھویں کی ٹیکسٹ بک میں سے طلبہ کی سہولت کے پیشِ نظر درج ذیل احادیثِ مبارکہ اور اسباق حذف کیے جا رہے ہیں تاکہ طلبہ بقیہ تمام اسباق پر توجہ مرکوز کرتے ہوئے بھرپور تیاری کر سکیں۔

باب اوّل: احادیثِ مبارکہ نمبر 3، 5، 8 اور 12

باب چہارم: معاشرتی تعلقات کے اخلاق و آداب

باب پنجم: وراثت کی اسلامی تعلیمات

باب ششم: صوفیہ کرام رحمۃ اللہ علیہم (پیر سید مہر علی شاہ رحمۃ اللہ علیہ، میاں شیر محمد شرقپوری رحمۃ اللہ علیہ)

باب ہفتم نظامِ اسلام کی نشاۃ ثانیہ اور مسلمانوں کی ذمہ داریاں

امتحانی بورڈ کے پرچہ مرتّبین کے لیے لازم ہے کہ سوالیہ پرچہ ترتیب دیتے ہوئے درج بالا باب/عنوانات میں معروضی، انشائی و دیگر نوعیت کے سوالات میں سے کوئی سوال یا جز شامل نہ کریں۔

نوٹ: یہ تسریع التعلّم پروگرام (ALP) صرف تعلیمی سیشن 26-2025 کے لیے بنایا گیا ہے۔

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امتحانی پرچہ اسلامیات لازمی برائے گیارہویں جماعت

ممتحنین (Paper Setters) کے لیے ضروری ہدایات

اسلامیات لازمی برائے گیارہویں جماعت کا سالانہ پرچہ 50 نمبروں پر مشتمل ہوگا، جس کے لیے طلبہ کو دو گھنٹے کا وقت دیا جائے گا۔ یہ پرچہ تین اجزا پر مشتمل ہوگا، جس کی تقسیم (Pairing Scheme) حسبِ ذیل ہے:

حصہ اول: کثیر الانتخابی سوالات (کل نمبر 10)

حصہ دوم: مختصر سوالات (کل نمبر 20)

حصہ سوم: (i) ترجمہ احادیث مبارکہ (کل نمبر 4)

(ii) تفصیلی سوالات (کل نمبر 16)

نوٹ: یہ پیرنگ سکیم (Pairing Scheme) حذف شدہ عنوانات کو ملحوظ رکھ کر بنائی گئی ہے اور صرف تعلیمی سیشن 27-2026 کے لیے بنائی گی ہے۔

درج بالا تینوں حصوں کے مختلف سوالات کی تیاری کے لیے درج ذیل ہدایات کو ملحوظ رکھیں:

حصہ اول	**سوال نمبر 1:** کثیر الانتخابی سوالات (MCQs)	کل نمبر (10)	کثیر الانتخابی سوالات کی تیاری کے لیے پوری کتاب کے متن کو ملحوظ رکھیں۔ جس کی تقسیم حسبِ ذیل ہے: بابِ اوّل، باب چہارم، باب پنجم، باب ششم اور باب ہفتم میں سے ایک ایک سوال، باب دوم میں سے تین اور باب سوم میں سے دو کثیر الانتخابی سوالات بنائے جائیں۔
حصہ دوم	**سوال نمبر 2:** مختصر سوالات (باب اول تا سوم)	کل نمبر (10)	اس حصے میں کل آٹھ (8) مختصر سوالات بنائے جائیں، جن میں سے پانچ (5) سوالات کے جواب دینے کا کہا جائے۔ اس حصے کے سوالات صرف بابِ اول، باب دوم اور باب سوم کی مشقوں میں سے ہی پوچھے جائیں۔ **(ہر باب سے کم از کم دو سوال شامل کریں۔)**
	سوال نمبر 3: مختصر سوالات (باب چہارم تا ہفتم)	کل نمبر (10)	اس حصے میں کل آٹھ (8) مختصر سوالات بنائے جائیں، جن میں سے پانچ (5) سوالات کے جواب دینے کا کہا جائے۔ اس حصے کے سوالات صرف بابِ چہارم، باب پنجم، باب ششم اور باب ہفتم کی مشقوں میں سے ہی پوچھے جائیں۔ **(چاروں ابواب سے دو دو سوال شامل کریں۔)**
حصہ سوم	**سوال نمبر 4:** احادیث کا ترجمہ	کل نمبر (4)	باب اوّل میں دی گئی منتخب احادیث میں سے چار احادیث پرچے میں دی جائیں، جن میں سے دو کا ترجمہ پوچھا جائے۔ ایک حدیث کا ترجمہ کرنے کے کل نمبر دو (2) ہیں۔ **نوٹ:** احادیث کا ترجمہ صرف بابِ اول میں دی گئی منتخب شدہ گیارہ (11) احادیث میں سے ہی پوچھا جائے، کتاب میں دوسرے مقامات پر دی گئی احادیث/ حذف شدہ احادیث کا ترجمہ نہ پوچھا جائے۔
	سوال نمبر 5: تفصیلی سوالات	کل نمبر (4)	کتاب کی مشقوں میں دیے گئے تفصیلی سوالات میں سے چار (4) دیے جائیں اور ان میں سے دو سوالوں کا جواب پوچھا جائے۔ ہر سوال کا جواب آٹھ (8) نمبروں پر مشتمل ہوگا۔ ان چار (4) سوالوں کے لیے اجزا کا انتخاب درج ذیل ترتیب کے مطابق کیا جائے اور حذف شدہ عنوانات میں سے سوال نہ دیے جائیں: (i) پہلا جز باب اوّل یا باب سوم سے لیا جائے۔ (ii) دوسرا جز باب دوم سے لیا جائے۔ (iii) تیسرا جز باب چہارم یا باب پنجم سے لیا جائے۔ (iv) چوتھا جز باب ششم یا باب ہفتم سے لیا جائے۔

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ماڈل پرچہ اسلامیات (لازمی) برائے گیارہویں جماعت

کل نمبر: 50 **وقت: 2 گھنٹے**

(حصہ اوّل)

سوال نمبر 1: درست جواب کا انتخاب کیجیے: (10 کل نمبر)

(i) قرآنِ مجید تمام آسمانی کتب کے لیے ہے:

(الف) ترجمہ (ب) نگران (ج) تشریح (د) دیباچہ

(ii) کائنات میں مختلف جہانوں کا وجود اور ان میں اختلاف و تنوع پتا دیتا ہے:

(الف) ٹیکنالوجی کا (ب) ترقی کا (ج) خالقِ حقیقی کا (د) قربِ قیامت کا

(iii) نبی کریم خَاتَمُ النَّبِيِّيْنَ صَلَّى اللّٰهُ عَلَيْهِ وَعَلٰى اٰلِهٖ وَاَصْحَابِهٖ وَسَلَّمَ کے بعد قیامت تک کوئی نبی نہیں آئے گا، اس عقیدے کو کہتے ہیں:

(الف) عقیدۂ تقدیر (ب) عقیدۂ آخرت (ج) عقیدۂ توحید (د) عقیدۂ ختمِ نبوت

(iv) مالِ غنیمت میں سے اللہ تعالیٰ، رسول اللہ خَاتَمُ النَّبِيِّيْنَ صَلَّى اللّٰهُ عَلَيْهِ وَعَلٰى اٰلِهٖ وَاَصْحَابِهٖ وَسَلَّمَ اور اہلِ بیتِ اطہار رضی اللہ تعالیٰ عنہم کا حصہ کہلاتا ہے:

(الف) عشر (ب) خمس (ج) صدقۂ فطر (د) جزیہ

(v) ریاستِ مدینہ میں دین کی تعلیم کے لیے جو درس گاہ قائم کی گئی اس کا نام تھا:

(الف) دارِارقم (ب) دارالعلوم (ج) صفہ (د) دارالھجرۃ

(vi) انصارِ مدینہ کی اکثریت کا پیشہ تھا:

(الف) کان کنی (ب) زراعت (ج) ملازمت (د) ماہی گیری

(vii) حدیثِ مبارک کی روشنی میں دین نام ہے:

(الف) صبر کا (ب) خیر خواہی کا (ج) مشقت کا (د) محنت کا

(viii) حدیثِ مبارک میں بیوہ اور مسکین کے لیے دوڑ دھوپ کرنے والے کو قرار دیا گیا:

(الف) سخی (ب) محسن (ج) مجاہد (د) صابر

(ix) حضرت سیدنا امام زین العابدین رحمۃ اللہ علیہ کی دعاؤں پر مشتمل کتاب کا نام ہے:

(الف) صحیفہ صادقہ (ب) صحیفہ صحیحہ (ج) صحیفہ جابر (د) صحیفہ سجادیہ

(x) حضرت یوسف علیہ السلام کی منصوبہ بندی سے قحط سے محفوظ ہوا:

(الف) مصر (ب) عراق (ج) حجاز (د) شام

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(حصہ دوم)

سوال نمبر2: درج ذیل میں سے پانچ سوالوں کے مختصر جواب دیجیے: (2x5=10)

(i) آیاتِ احکام کے بارے میں مختصراً تحریر کریں۔

(ii) صحاحِ ستہ میں سے دو کتب کے نام مع مؤلفین تحریر کریں۔

(iii) آسمانی کتابوں کی مشترکہ تعلیمات میں سے دو تحریر کیجیے۔

(iv) روزے کے انسانی صحت پر کوئی سے دو اثرات تحریر کریں۔

(v) قربانی کا فلسفہ بیان کریں۔

(vi) ریاستِ مدینہ کے تعلیمی نظام میں ہمارے لیے کیا راہ نمائی ہے؟

(vii) خاندان کے سربراہ کے لیے سیرتِ طیّبہ صَلَّى اللهُ عَلَيْهِ وَعَلٰى اٰلِهٖ وَاَصْحَابِهٖ وَسَلَّمَ میں کیا عملی راہ نمائی ہے؟

(viii) ارتکازِ دولت معاشی نظام میں بگاڑ کا سبب ہے، وضاحت کریں۔

سوال نمبر3: درج ذیل میں سے پانچ سوالوں کے مختصر جواب دیجیے: (2x5=10)

(i) رشوت ستانی کیسے دوسروں کے حقوق کو سلب کرتی ہے؟

(ii) تحقیرِ انسانیت کی مروجہ صورتوں میں سے دو صورتیں تحریر کریں۔

(iii) آپ اپنے اساتذہ کرام کا کیسے احترام کرتے ہیں؟

(iv) عدّت کی اقسام تحریر کریں۔

(v) خلفائے راشدین رضی اللہ تعالیٰ عنھم کی دو نمایاں خصوصیات تحریر کریں۔

(vi) حضرت امام جعفر صادق رحمۃ اللہ علیہ کی علمی خدمات تحریر کریں۔

(vii) اسلاموفوبیا کی دو صورتیں تحریر کریں۔

(viii) قانون کے احترام کی اہمیت مختصراً تحریر کریں۔

(حصہ سوم)

سوال نمبر4: درج ذیل میں سے کوئی سی دو احادیث مبارکہ کا اردو ترجمہ کیجیے: (2+2=04)

(الف) نِعْمَتَانِ مَغْبُوْنٌ فِيْهِمَا كَثِيْرٌ مِّنَ النَّاسِ الصِّحَّةُ وَالْفَرَاغُ

(ب) مَنْ رَأَى مِنْكُمْ مُنْكَرًا فَلْيُغَيِّرْهُ بِيَدِهٖ، فَإِنْ لَمْ يَسْتَطِعْ فَبِلِسَانِهٖ، فَإِنْ لَمْ يَسْتَطِعْ فَبِقَلْبِهٖ، وَذٰلِكَ أَضْعَفُ الْإِيْمَانِ

(ج) لَعَنَ رَسُوْلُ اللّٰهِ صَلَّى اللّٰهُ عَلَيْهِ وَسَلَّمَ الْمُتَشَبِّهِيْنَ مِنَ الرِّجَالِ بِالنِّسَآءِ وَالْمُتَشَبِّهَاتِ مِنَ النِّسَآءِ بِالرِّجَالِ

(د) لَا يُؤْمِنُ أَحَدُكُمْ حَتّٰى أَكُوْنَ أَحَبَّ إِلَيْهِ مِنْ وَالِدِهٖ وَوَلَدِهٖ وَالنَّاسِ أَجْمَعِيْنَ

سوال نمبر5: درج ذیل میں سے کوئی سے دو سوالات کے تفصیلی جواب دیجیے: (16=08+08)

(i) نبی کریم صَلَّى اللهُ عَلَيْهِ وَعَلٰى اٰلِهٖ وَاَصْحَابِهٖ وَسَلَّمَ کی معاشی تعلیمات پر تفصیلی نوٹ لکھیں۔

(ii) زکوٰۃ کے احکام و مسائل اور معاشرتی اثرات پر نوٹ لکھیں۔

(iii) قرآن و سنّت کی روشنی میں نکاح و طلاق کے احکام و مسائل پر تفصیلی مضمون قلم بند کریں۔

(iv) "اسلاموفوبیا اور مسلمانوں کی ذمہ داریاں" کے عنوان پر بحث کریں۔

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SMART SYLLABUS / ACCELERATED LEARNING PROGRAMME (ALP)-DELETED TOPICS AND EXERCISE QUESTIONS OF MATHEMATICS-11

To facilitate students, the content of Mathematics-11 has been rationalized and reduced from the compulsory textbook. This rationalization aims to help students focus on the key Student Learning Outcomes (SLOs) that are essential for conceptual understanding and examination preparation, rather than covering the entire textbook. The unit-wise Smart Syllabus (ALP) is provided below. It clearly specifies the exercises, examples, and questions excluded from Mathematics-11 for the BISE Annual Examination-2027. Teachers and students are advised to follow this Smart Syllabus (ALP) for effective teaching, learning, and exam preparation.

Name of the Unit	Excluded Content & Questions of Mathematics-11
1 **Complex Numbers**	• 1.4.1 The Polar Form of a Complex Number, Operations on Complex Numbers in Polar Form, Examples 12 to 16; Pages # 15 to 18. • 1.5 Complex Numbers in the Real World, Examples 17 & 18; Pages # 19 to 20. • Exercise # 1.5: Q # 2 to Q # 22; Pages # 20 to 21.
2 **Functions and Graphs**	• 2.5 Real Life Applications, Examples 12 & 13; Pages # 31 to 32. • Exercise # 2.2: Q # 4 & Q # 5; Page # 33.
3 **Theory of Quadratic Functions**	• 3.5 Real World Problems of Quadratic Equations and Inequalities, Examples 9 & 10; Pages # 41 to 42. • Exercise # 3.2, Q # 2 to Q # 7; Page # 43.
4 **Matrices and Determinants**	• 4.6 Elementary Row Operation on a Matrix; Page # 61 • 4.7 Echelon and Reduced Echelon Form of Matrices, Examples 8 to 10; Pages # 62 to 64. • 4.8 System of Non-Homogeneous Linear Equations, Example # 11; Pages # 64 to 67. • 4.9 System of Homogeneous Linear Equations, Examples 14 & 15; Pages # 71 to 74. • 4.10 Applications of Matrices in Real World, Examples 16 & 17; Pages # 74 to 76. • Exercise # 4.3: Q # 1, 2, 5, 6, 7, 8, 9, 10 & 11; Pages # 76 to 77.

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5 **Partial Fractions**	• **Complete unit is retained. No content and questions are deleted / excluded.**
6 **Sequences and Series**	• Exercise # 6.2: Q # 20, 21, 22 & 23; Page # 94. • Exercise # 6.3: Q # 6; Page # 95. • Exercise # 6.4: Q # 17, 18 & 19; Page # 99. • Exercise # 6.5: Q # 7, 8, 9, 10 & 14; Page # 102. • Exercise # 6.6: Q # 7 & 8; Page # 104. • Exercise # 6.7: Q # 6; Page # 105. • 6.8 Arithmetico-Geometric Progression, Example 19, Examples 20 & 21; Pages # 106 to 109. • Exercise # 6.8 (Complete); Pages # 109 to 110. • Exercise # 6.9: Q # 13, 14, 15, 16, 17 & 18; Page # 114. • 6.11 Real Life Problems involving Sequences and Series, Examples 27 to 31; Pages # 117 to 120. • Exercise # 6.11 (Complete); Pages # 121 to 122.
7 **Permutations and Combinations**	• Exercise # 7.2: Q # 6, 9 & 11; Page # 129. • Exercise # 7.3: Q # 9, 10 & 11; Page # 132. • Exercise # 7.4: Q # 4, 5, 6, 17 & 18; Pages # 138 to 139.
8 **Mathematical Induction and Binomial Theorem**	**Complete unit is deleted / excluded.**
9 **Division of Polynomials**	• **Complete unit is retained. No content and questions are deleted / excluded.**
10 **Trigonometric Identities**	• 10.6 Triple Angle Identities, Pages # 192 to 193. • Exercise # 10.3, Q # 2 (viii, ix, x & xii), Q # 5; Pages # 194 to 195. • Exercise # 10.4, Q # 6, 7, 8, 9 &10; Page # 199.
11 **Trigonometric Functions and their Graphs**	• 11.4.1 Graph of Trigonometric Functions; Pages # 205 to 206. • 11.4.2 Graph of y = sin *x*; Pages # 206 to 207. • 11.4.3 Graph of y = cos *x*; Pages # 207 to 209. • 11.4.4 Graph of y = tan *x*; Pages # 209 to 210. • Exercise # 11.2 (Complete); Page # 211.

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12 **Limit and Continuity**	• 12.4 Application of Transcendental Functions to Limits and Continuity on Real World Problems, Examples 14 to 17; Pages # 234 to 235. • Exercise # 12.3 (Complete); Pages # 235 to 236.
13 **Differentiations**	• 13.7 Applications of Differentiation, Examples 12 to 15; Pages # 255 to 256. • Exercise # 13.3 (Complete); Pages # 256 to 257.
14 **Vectors in Space**	• Exercise # 14.1: Q # 9 & 10; Page # 266. • Exercise # 14.2: Q # 7, 8 & 12; Page # 274. • 14.4 Scalar Triple Product, Examples 23 to 31; Pages # 283 to 288. • Exercise # 14.4 (Complete); Pages # 289 to 290.

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INSTRUCTIONS FOR PREPARATION OF EXAM PAPER OF SMART SYLLABUS (ALP) OF MATHEMATICS GRADE-11 FOR ANNUAL EXAM-2027

The paper of Mathematics for Grade-11 will carry 100 marks.

Objective Type = 20 + Subjective Type = 80 marks.

Timing of the paper will be 3 hours.

(Objective Type = 30 minutes + Subjective Type = 2:30 hours)

All questions will be selected from the entire content of Mathematics-11 textbook. The paper will be made as per following details:

<table>
<tr>
<td>Objective:</td>
<td>Q-1: 20 Multiple Choice Questions from entire content of the textbook. The detail is as follows:
<table>
<tr><th>Unit No.</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th></tr>
<tr><td>No. of MCQs</td><td>2</td><td>1</td><td>1</td><td>2</td><td>1</td><td>2</td><td>2</td><td>1</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td></tr>
</table>
</td>
<td>1 × 20 = 20</td>
</tr>
<tr>
<td rowspan="3">Part-I:
Subjective:</td>
<td>This section contains three short questions from entire content of the textbook. The details are as follows:
Q-2: 8 short answer questions have to be answered out of 12. The detail is as follows:
<table>
<tr><th>Unit No.</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr>
<tr><td>No. of Short Questions per unit</td><td>4</td><td>2</td><td>2</td><td>3</td><td>1</td></tr>
</table>
</td>
<td>2 × 8 = 16</td>
</tr>
<tr>
<td>Q-3: 8 short answer questions have to be answered out of 12. The detail is as follows:
<table>
<tr><th>Unit No.</th><th>6</th><th>7</th><th>9</th><th>10</th></tr>
<tr><td>No. of Short Questions per unit</td><td>4</td><td>3</td><td>2</td><td>3</td></tr>
</table>
</td>
<td>2 × 8 = 16</td>
</tr>
<tr>
<td>Q-4: 9 short answer questions have to be answered out of 13. The detail is as follows:
<table>
<tr><th>Unit No.</th><th>11</th><th>12</th><th>13</th><th>14</th></tr>
<tr><td>No. of Short Questions per unit</td><td>2</td><td>3</td><td>4</td><td>4</td></tr>
</table>
</td>
<td>2 × 9 = 18</td>
</tr>
</table>

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Part-II: **Subjective:**	This section contains five long questions from the entire content of the textbook. Each question carries 10 marks. These questions will be bifurcated in two-parts **a & b** (carrying 5 marks each). Students must attempt any three questions. The details are as follows: **Q-5:** **(a)** One long question will be asked from unit 1. **(b)** One long question will be asked either from unit 2 or unit 3. **Q-6:** **(a)** One long question will be asked from unit 4. **(b)** One long question will be asked either from unit 5 or unit 9. **Q-7:** **(a)** One long question will be asked from unit 6. **(b)** One long question will be asked from unit 7. **Q-8:** **(a)** One long question will be asked from unit 10. **(b)** One long question will be asked from unit 12. **Q-9:** **(a)** One long question will be asked from unit 13. **(b)** One long question will be asked from unit 14.	**3 × (5 + 5) = 30**

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MODEL PAPER OF MATHEMATICS FOR GRADE-11
FOR (ANNUAL EXAM-2027)
Objective Type

Time Allowed: 30 Minutes **Maximum Marks: 20**

1. Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle with marker or ink pen in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

i.	The multiplicative identity in complex number is: (A) (1, 1) (B) (0, 0) (C) (1, 0) (D) (0, 1)
ii.	The sum of all the three cube roots of unity is: (A) 1 (B) 2 (C) 3 (D) 0
iii.	The domain of the function $f(x)=\sqrt{4-x^2}$ is: (A) $(-2, 2)$ (B) $(-2, \infty)$ (C) $(-\infty, 2)$ (D) $[-2, 2]$
iv.	What is the maximum value of $f(x) = -2x^2 + 4x + 3$? (A) 1 (B) 3 (C) 5 (D) 7
v.	If order of a matrix A is $m\times n$ and order of matrix B is $n \times p$ then order of AB is: (A) $n\times p$ (B) $m\times n$ (C) $m\times p$ (D) $p\times n$
vi.	If C is a matrix of order is 3×3 and $k \in R$ is any scalar then $\lvert kC\rvert$ is equal: (A) $k\lvert C^3\rvert$ (B) $k^3\lvert C^3\rvert$ (C) $k^3\lvert C\rvert$ (D) $(kC)^3$
vii.	An expression of the form $\frac{p(x)}{q(x)}$, $q(x)\neq 0$ is called: (A) Partial fraction (B) Rational fraction (C) Irrational fraction (D) Polynomial
viii.	The Arithmetic mean between $3\sqrt{3}$ and $\sqrt{3}$ is: (A) 4 (B) $4\sqrt{3}$ (C) $2\sqrt{3}$ (D) $\sqrt{3}$
ix.	The next term of the sequence 1, 3, 9, 27,… is: (A) 30 (B) 60 (C) 81 (D) 99
x.	0! is equal to (A) 0 (B) 1 (C) 2 (D) 3
xi.	The number of diagonals of 6-sided figure is: (A) 9 (B) 18 (C) 20 (D) 35
xii.	The remainder when $f(x)=x^4+x^3+x^2+1$ is divided by $x + 1$is: (A) 1 (B) 2 (C) 3 (D) 4
xiii.	$\text{Cos}\,ec\left(\frac{\pi}{2}+\alpha\right)$ is equal to: (A) $\cos\alpha$ (B) $\sin\alpha$ (C) $\sec\alpha$ (D) $\cos ec\alpha$

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xiv.	The value of $\cos\left(\frac{\pi}{2}+\frac{\pi}{6}\right)$ is: (A) $-\frac{1}{5}$ (B) $\frac{1}{2}$ (C) $-\frac{1}{2}$ (D) $\frac{\sqrt{3}}{2}$
xv.	The range of $y = tan(x)$ *is*: (A) $(-\infty,0)$ (B) $(-\infty,\infty)$ (C) $(-\infty,-1)\cup(1,\infty)$ (D) $(-1,1)$
xvi.	$\lim_{x\to a} x^p$ is equal to: (A) p (B) a (C) p^a (D) a^p
xvii.	The notation used by Newton to denote derivative of $y = f(x)$ is: (A) $\frac{dy}{dx}$ (B) $\dot{f}(x)$ (C) $f'(x)$ (D) $Df(x)$
xviii.	The derivative of $f(x) = x^2 - 3$ at *x=2?* (A) 4 (B) 2 (C) 3 (D) 5
xix.	What will be the angle between the vector p and q, if $p.q = \frac{3}{5}$ and $\lvert p\times q\rvert = \frac{3}{5}$ is: (A) 30° (B) 45° (C) 60° (D) 90°
xx.	The magnitude of a vector perpendicular to both the vectors $u = 2i-3j+k$ and $v = i+4j-2k$ is: (A) $\sqrt{50}$ (B) $\sqrt{150}$ (C) $\sqrt{500}$ (D) $\sqrt{1550}$

Subjective Type (Part-I)

Time allowed: 2:30 hours **Max. Marks:80**

2. Write short answers to any EIGHT (8) questions: **2 × 8 = 16**

(i) If $z_1 = (4, 2)$ and $z_2 = (3,-1)$, then find $\frac{z_1}{z_2}$.

(ii) Show that: $i^{n+1} + i^{n+2} + i^{n+3} + i^{n+4} = 0$, for all $n \in N$.

(iii) Find the square root of complex number $5 + 12i$.

(iv) If ω is an imaginary cube roots of unity, prove that $\frac{a+b\omega^2+c\omega}{a\omega^2+b\omega+c} = \omega$

(v) Given $f(x) = x^3 - ax^2 + bx + 1$. If $f(2) = -3$ and $f(-1) = 0$. Find the values of a and b.

(vi) Find the domain and range of $f(x) = \sqrt{x^2-9}$.

(vii) Find the inverse of $f(x) = 3x^2 - 2x + 6, \quad x \geq 5.$

(viii) Solve $\lvert x^2+1\rvert = 5$

(ix) If A and B are square matrices of the same order, then explain why in general $(A+B)^2 \neq A^2 + 2AB + B^2$.

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(x) Find the values of x if $\begin{vmatrix} 2 & 1 & x \\ -1 & -4 & -3 \\ x & 1 & 0 \end{vmatrix} = 5$

(xi) If A is a square matrix of order 3, then show that $|kA| = k^3 |A|$.

(xii) Resolve $\frac{2}{x^2 - 1}$ into partial fractions:

3. Write short answers to any EGHT (08) questions: **2 × 8 = 16**

(i) Which term of the A.P., 3, 8, 13, … is 123?

(ii) Find the sum of the first 100 positive integers.

(iii) Find the 12^{th} term of $1 + i, 2i, -2 + 2i, \cdots$.

(iv) If 5 is the harmonic mean between 2 and b, find b.

(v) Evaluate $\frac{9!}{6!\,3!}$

(vi) How many signals can be given by 6 flags of different colours, using 2 flags at a time?

(vii) How any diagonals and triangles can be formed by joining the vertices of a the polygon having 15 sides?

(viii) When the polynomial $4x^4 + 2x^3 + kx^2 + 13$ is divided by $x + 1$, the remainder is 16. Find the value of k.

(ix) Suppose a polynomial regression model $P(x) = 3x^3 - 4x^2 + 2x - 5$. If a data point at $x = -1$ is missing. What should be its predicted value?

(x) Prove that : $\sin 210° + \cos 240° + \tan 225° + \cot 225° = 1$.

(xi) Prove that: $\cos(\alpha + 45°) = \frac{1}{\sqrt{2}}(\cos \alpha - \sin \alpha)$.

(xii) Express $\sin 5x + \sin 7x$ as a product.

4. Write short answers to any NINE (09) questions: **2 × 9 = 18**

(i) Find the periods of $\frac{1}{2}\sin\left(\frac{3x}{2} - \frac{\pi}{2}\right)$.

(ii) Find the maximum and minimum values of $\frac{3}{2} + \cos\left(x - \frac{\pi}{4}\right)$.

(iii) Evaluate $\lim_{x \to 3} \frac{x - 3}{\sqrt{x} - \sqrt{3}}$.

(iv) Evaluate $\lim_{n \to +\infty} \left(1 + \frac{4}{n}\right)^n$

(v) Define divergent sequence.

(vi) A particle moves along a line such that its position after t hours is given by: $s(t) = 4t^2 + 2t + 1$(in miles). Find the average velocity over the interval [2, 5].

(vii) Find the gradient of the curve $f(x) = 3x^2 + 2x$ at $x = 1$.

(viii) Find the derivative of $y = \frac{3}{4}x^4 + \frac{2}{3}x^3 + \frac{1}{2}x^2 + 2x + 5$ w.r.t. x.

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(ix) Differentiate $\frac{2x-3}{2x+1}$ w.r.t 'x'.

(x) If $\underline{u} = 2\underline{i} + 3\underline{j} + \underline{k}$, $\underline{v} = 4\underline{i} + 6\underline{j} + 2\underline{k}$ *and* $\underline{w} = -6\underline{i} - 9\underline{j} - 3\underline{k}$, then show that $\underline{u}, \underline{v}$ *and* $\underline{w}$ are parallel to each other.

(xi) Find t, so that $\left|2\underline{i} + (t-1)\underline{j} + t\underline{k}\right| = \sqrt{13}$

(xii) Find the work done, if the point at which the constant force $\underline{F} = 2\underline{i} + 5\underline{j} + 3\underline{k}$ is applied to an object, moves it from $P_1(2, -3, 1)$ to $P_2(7, 5, 3)$.

(xiii) Show that $\left|\underline{a} \times \underline{b}\right|^2 = \left|\underline{a}\right|^2 \left|\underline{b}\right|^2 - \left(\underline{a} \cdot \underline{b}\right)^2$

Subjective (Part-II)

Note: Attempt any three questions. **3 × 10 = 30**

5. (a) If $z_1 = x + yi$ and $z_2 = a + bi$, find x, y, a and b such that $z_1 + z_2 = 10 + 4i$ and $z_1 - z_2 = 6 + 2i$. **5**

(b) Solve $\left|x^2 - 3x + 2\right| > 4$ **5**

6. (a) Show that $\begin{vmatrix} a-b-c & 2a & 2a \\ 2b & b-c-a & 2b \\ 2c & 2c & c-a-b \end{vmatrix} = (a+b+c)^3$ **5**

(b) Resolve $\frac{x^2 - 10x + 13}{(x-1)(x^2 - 5x + 6)}$ into partial fractions. **5**

7. (a) For what value of n, $\frac{a^n + b^n}{a^{n-1} + b^{n-1}}$ is the positive geometric mean between a and b? **5**

(b) How many numbers between 100 and 1000 can be formed by using digits 0, 1, 2, 3, 4, 5 without repetition? How many of them are divisible by 5? **5**

8. (a) Prove that $\sin\frac{\pi}{9}\sin\frac{2\pi}{9}\sin\frac{\pi}{3}\sin\frac{4\pi}{9} = \frac{3}{16}$ **5**

(b) Given the function $f(x) = \begin{cases} 2x + 3, & x \le 1 \\ -x + 4, & x > 1 \end{cases}$

Discuss the limit and continuity at $x = 1$. **5**

9. (a) Differentiate $\frac{(\sqrt{x}+1)(x^{\frac{3}{2}} - 1)}{x^{\frac{3}{2}} - x^{\frac{1}{2}}}$ with respect to x. **5**

(b) If $\left|\underline{a}\right| = 3, \left|\underline{b}\right| = 4$ and $\left|\underline{a} + \underline{b}\right| = 5$. Find the angle between $\underline{a}$ and $\underline{b}$. **5**

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Smart Syllabus / Accelerated Learning Program (ALP)-Deleted Content and Questions for Physics-11 (Annual Examination-2027)

To ensure timely curriculum completion and effective learning for Academic Session 2026-27, selected topics and questions of Physics- 11 have been reduced under the Smart Syllabus / ALP.

This adjustment has been made carefully to prevent any learning loss, content overlap, or conceptual gap for students. The modified scheme retains all core concepts required for progression to higher grades, while maintaining curriculum coherence across science subjects. The detail is as follows:

Chapter No.	Chapter Name	Topics	Page No.	Exercise
1	Measurements	1.1 Physical quantities and their units 1.2 International system of units	2 2-5	MCQs: 1.2, 1.3, 1.4, 1.14, 1.16 Shot answer questions: 1.1, 1.3, 1.4, 1.5 CRQs: 1.1, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.11 Comprehensive Question: 1.3 (Part-b) Numerical Problems: 1.1, 1.2, 1.8
2	Force and Motion	2.1 Scalars 2.2 Vectors • Only derivation of equations of motion by graphical method 2.10 Elastic collision in two dimensions 2.11 Inelastic collision in two dimensions 2.12 Rocket propulsion • Examples: 2.1, 2.4	20 20-21 25-28 41, 42 42, 43 44 22, 29-30	MCQs: 2.8 Shot answer questions: 2.7 CRQs: 2.3, 2.4 Comprehensive Questions: 2.3, 2.7, 2.8 (only inelastic collision in two dimensions) Numerical Problems: 2.4, 2.10, 2.11, 2.12
3	Circular and Rotational Motion	• Applications of centripetal force • Flywheel • The Gyroscope • Example: 3.2	55, 56 64 64, 65 54	MCQs: 3.6, 3.8, 3.9 Shot answer questions: 3.3, 3.6, 3.8 CRQs: 3.2, 3.5, 3.6, 3.8 Numerical Problems: 3.3, 3.5, 3.10
4	Work, Energy and Power	4.1 Work done by a constant force 4.5 Energy (K.E.) • Examples: 4.3 and 4.5	69, 70 74, 75	MCQs: 4.2, 4.4, 4.8, 4.9 Short answer questions: 4.2, 4.5, 4.8, 4.9 CRQs: 4.2, 4.3, 4.5, 4.7

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			75-76 and 82-83	Comprehensive Questions: 4.1, 4.2 (Part-i) Numerical Problems: 4.2, 4.7, 4.8, 4.10
5	Solids and Fluid Dynamics	5.1 Classification of solids 5.4 Determination of Young's modulus of a wire 5.10 Increase in flow velocity 5.15 Real fluids are viscous fluids 5.16 Superfluids	88, 89 91, 92 101 107, 108 108	MCQs: 5.3, 5.9, 5.12 Short answer questions: 5.5, 5.6, 5.10 CRQs: 5.2, 5.5, 5.6 Comprehensive Questions: 5.1, 5.4 Numerical Problems: 5.3, 5.5, 5.6
6	Heat and Thermodynamics	6.1 Assumptions of the kinetic theory of gasses 6.6 Heat engine • Example: 6.1	113-117 122 115	MCQs: 6.3, 6.4, 6.7, 6.8, 6.10 Short answer questions: 6.1, 6.2, 6.9, 6.10, 6.11 CRQs: 6.4, 6.5 Comprehensive Questions: 6.1, 6.2 Numerical Problems: 6.1, 6.2, 6.7, 6.8
7	Waves and Vibrations	7.1 Waves 7.4 Stationary waves and their formation • Tuning musical instruments • Examples: 7.6, 7.9	132-134 139, 140 153 151 and 156	MCQs: 7.1, 7.3, 7.4, 7.9 Short answer questions: 7.4, 7.5 CRQs: 7.1, 7.3 Numerical Problems: 7.1, 7.2, 7.4, 7.5
8	Physical Optics and Gravitational Waves	8.2 Types of Polarization • Optical activity • Space-time distortion / tidal forces • Examples: 8.5, 8.6	169 173, 174 179 181	MCQs: 8.5, 8.8, 8.9, 8.10 Short answer questions: 8.4, 8.5 CRQs: 8.4, 8.6 Comprehensive Questions: 8.1 (Only classify the polarization of waves), 8.8 Numerical Problems: 8.1, 8.5, 8.9
9	Electrostatics and Current Electricity	• Electric field lines • Applications of Gauss's law 9.7 Motion of charged particles in a uniform electric field 9.8 Path of a charged particle	189-191 194 198, 199 199, 200	MCQs: 9.3, 9.6, 9.10 Short answer questions: 9.3, 9.8, 9.9 CRQs: 9.1, 9.2, 9.3 Numerical Problems: 9.3, 9.4, 9.7, 9.9

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		9.9 Shielding from external electric field 9.19 Use of a Galvanometer • Examples: 9.9, 9.11	200, 201 214, 215 205, 210-211	
10	Electromagnetism	10.3Magnetic flux linkage 10.5 Velocity selector 10.7 Lenz's law • Examples: 10.2, 10.4, 10.5 and 10.7	227 229, 230 233-235 226, 230, 231, 236	MCQs: 10.2, 10.3, 10.10 Short answer questions: 10.1, 10.4, 10.5, 10.6, 10.7 CRQs: 10.2, 10.3, 10.8 Comprehensive Questions: 10.3 (Only Lenz's law), 10.5 Numerical Problems: 10.7, 10.8, 10.9, 10.11, 10.12
11	Special Theory of Relativity	11.5 Space-time in relativity	249-251	MCQs: 11.1 Shot answer questions: 11.1, 11.4, 11.8 CRQs: 11.1, 11.2 Comprehensive Question: 11.3 Numerical Problems: 11.7, 11.8
12	Nuclear and Particle Physics	12.8 Conservation laws 12.10 Most of the matter in the observable universe is plasma 12.11The theories about the forces between the masses of particles 12.12The standard model	267 267, 268 268, 269 269	MCQs: 12.2, 12.4, 12.5, 12.9, 12.15, 12.16, 12.17 Shot answer questions: 12.2, 12.3, 12.7, 12.11, 12.13, 12.14 CRQs: 12.2, 12.4 Numerical Problems: 12.6

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Pairing Scheme / Instructions for Preparation of Exam Paper of Physics for Class-11

The paper of Physics for Grade-11 will consist of 85 marks.

Objective Type = 17 + Subjective Type = 68 marks.

Timing of the paper will be 3 hours.

(Objective Type = 20 minutes + Subjective Type = 2:40 hours)

The paper will be made as per following details:

Part-I: **Objective:**	**Q-1:** 17 Multiple Choice Questions (MCQs) will be developed from the entire content of the textbook. One MCQ will be asked from chapters; 1, 2, 3, 4, 6, 8 and 11 each. Two MCQs will be asked from chapters; 5, 7, 9, 10 and 12 each.	**(1×17) = 17**
Part-II: **Subjective:**	This section will contain three short answer questions. Each short answer question will be asked from the content of the textbook. The detail is as follows: **Q-2:** 8 short answer questions have to be answered out of 12. The detail is as follows: • Two short answer questions will be asked from chapters; 1 and 2 each. Four short answer questions will be asked from chapters 3 and 4 each.	**(2 × 8) = 16**
	Q-3: 8 short answer questions have to be answered out of 12. The detail is as follows: • Two short answer questions will be asked from chapters; 6 and 8 each. Four short answer questions will be asked from chapters 5 and 7 each.	**(2 × 8) = 16**
	Q-4: 6 short answer questions have to be answered out of 9. The detail is as follows: Three short answer questions will be asked from chapters; 9 and 10 each. One short answer question will be asked from chapter 11 and two short answer questions will be asked from chapter 12.	**(2 × 6) = 12**

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Part-III: **Subjective:**	This section will contain five (05) detailed questions and students have to attempt any three questions, carrying 8 marks each. Each detailed question will be asked form the content of the textbook. In this section, each question will consist of two parts. Part (a) may be asked form any chapter. Part (b) will be asked from different chapters (not from the same chapter as Part (a). Part (a) will carry 5 marks, while Part (b) will carry 3 marks. The detail is as follows: **Q-5:** • One detailed question will be asked from chapters; 1, 2 and 3. **Q-6:** • One detailed question will be asked from chapters; 4, 5 and 6. **Q-7:** • One detailed question will be asked from chapters; 7 and 8. **Q-8:** • One detailed question will be asked from chapters; 9 and 10. **Q-9:** • One detailed question will be asked from chapters; 11 and 12.	**(8 × 3) = 24**

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MODEL PAPER OF PHYSICS FOR GRADE-11
(For Annual Exam-2027)

OBJECTIVE TYPE

Max. Marks: 17 **Time: 20 mins**

Q.1. Four possible answers A, B, C & D to each question are given. The choice which you think is correct, fill the circle in front of the question (on bubble sheet) with Marker or Pen ink. Cutting or filling two or more circles will result in zero mark in that question. **(1×17=17)**

1. The ratio of the dimensions of force and energy is:

   (A) T (B) T^{-1} (C) L (D) L^{-1}

2. The projectile gains its maximum height at an angle of:

   (A) 0° (B) 45° (C) 60° (D) 90°

3. An object in uniform circular motion makes 10 revolutions in 2 seconds. Which of the following statement is true?

   (A) Its period is 2.0 s (B) Its period is 20 s

   (C) Its frequency is 5 Hz (D) Its frequency is 0.2 Hz

4. If an athlete uses 500 J of energy to lift a load in 2 s, his muscular power is:

   (A) 125 watt (B) 250 watt (C) 500 watt (D) 1000 watt

5. A solid float in water with half of its volume submerged. The density of the solid is:

   (A) equal to the density of water (B) half the density of water
   (C) twice the density of water (D) zero

6. The pressure will be low when speed of a fluid is:

   (A) zero (B) high (C) low (D) constant

7. First law of thermodynamics is based upon law of conservation of:

   (A) mass (B) energy (C) momentum (D) charge

8. The bending of waves around an obstacle is called as:

   (A) refraction (B) reflection

   (C) diffraction (D) interference

9. If the amplitude of the wave is tripled, then the amount of energy is increased by:

   (A) 3 times (B) 6 times (C) 9 times (D) 12 times

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10. The mathematical representation of Malus's law is:

(A) $I = I_\circ cos^2\theta$ (B) $I = I_\circ sin^2\theta$

(C) $I = I_\circ tan^2\theta$ (D) $I = I_\circ cot^2\theta$

11. What is the work done on an electron by potential difference of 100 volts?

(A) 1.6 x 10^{-19} eV (B) 1.6 x 10^{-17} eV (C) 6.25 x 10^{-17} eV (D) 100 eV

12. When a wire of resistance R is cut into two equal parts, its resistance becomes R/2. What happens to resistivity?

(A) It becomes double (B) It remains the same

(C) It becomes half (D) It becomes one fourth

13. The unit $NA^{-1}\ m^{-1}$ is called:

(A) weber (B) tesla (C) coulomb (D) none of these

14. According to Faraday's law, what causes an emf (voltage) to be generated in a coil?

(A) A constant magnetic field (B) A changing magnetic flux linkage
(C) Heat applied to the coil (D) Increasing the wire thickness

15. If the rest mass m_o of a particle increases to m due to its high speed, then its kinetic energy is:

(A) 1/2 mc^2 (B) 1/2 mv^2 (C) $(m - m_\circ)c^2$ (D) 1/2 $(m - m_\circ)c^2$

16. Baryon is formed by combination of:

(A) 2 quarks (B) 3 quarks (C) 4 quarks (D) a quark and an anti-quark

17. Which one of the following forces has negligible effect between the elementary particles?

(A) Strong nuclear force (B) Weak nuclear force

(C) Gravitational force (D) Electromagnetic force

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SUBJECTIVE TYPE (Part-1)

Max. Marks: 68 **Time: 2:40 hours**

Q. 2 Write short answers of any Eight (08) of the following questions: (2 × 8 = 16)

(i) How many significant figures are there in the following measurements?

(a) 37 km (b) 0.002953 m (c) 7.50034 cm (d) 200.0 m

(ii) What is meant by a dimensionless quantity? Give one example.

(iii) Differentiate between an elastic and an inelastic collision.

(iv) Show that rate of change in momentum is equal to force applied. Also state Newton's second law of motion in terms of momentum.

(v) Mass is a measure of inertia in linear motion. What is its analogue in rotational motion? Describe briefly.

(vi) Prove the relation; 1 rad = 57.3°

(vii) How does an astronaut feel weightlessness while orbiting from the Earth in a spaceship?

(viii) When a moving car turns around a corner to the left, in what direction do the occupants tend to fall? Explain briefly.

(ix) What is a conservative force? Give examples.

(x) Calculate power of a crane in kilowatt which lifts a mass of 1000 kg to a height of

100 m in 20 seconds.

(xi) Why work done against friction is non-conservative in nature? Explain briefly.

(xii) Differentiate between P.E and absolute P.E.

Q. 3 Write short answers of any Eight (08) of the following questions: (2 × 8 = 16)

(i) Explain the working of a carburetor of a motorcar using Bernoulli's principle.

(ii) Differentiate between laminar flow and turbulent flow.

(iii) Why must speed of an object be minimum against drag force?

(iv) Why wings of an aero plane are rounded outward while flattened inward?

(v) Why adiabat is steeper than isotherm? Explain briefly.

(vi) Explain how thermodynamics relates to the concept of energy conservation.

(vii) Analyze the relationship between intensity of a wave, area and amplitude.

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(viii) How should a sound source move with respect to an observer so that the frequency of its sound does not change?

(ix) What conditions must be satisfied is order that two-source interference fringes may be observed?

(x) Can you apply Doppler effect to light waves? Explain briefly.

(xi) Compare Brewster's law and Malus's law.

(xii) How do the properties of a system, such as masses, orbital period, and eccentricity, affect the characteristics of gravitational waves?

Q. 4 Write short answers of any Six (06) of the following questions: (2 × 6 = 12)

(i) Is electron-volt a unit of potential difference or energy? Explain.

(ii) What is conventional current? Explain briefly.

(iii) Why does the terminal potential difference of a battery decrease when the current drawn from it is increased?

(iv) Does the induced emf always act to decrease the magnetic flux through a circuit?

(v) Distinguish between magnetic flux and flux density.

(vi) How does an electric heater work on the principle of electromagnetic induction?

(vii) Why is it impossible for a material particle to move with speed of light? Explain briefly.

(viii) What is the difference between beta particle and an electron?

(ix) Why neutrino must be released in the positron emission?

Part – 2

(3×8 = 24)

Note: Attempt any Three (03) questions. Each question carries eight (08) marks.

Q. No 5 (a) Give the dimensions of velocity. Explain elastic collision in one dimension and derive the final velocities. (5)

(b) A car is moving with a speed of 108 km h^{-1}. If its wheel has a diameter of 60 cm, find its angular speed in rad s^{-1} and rev s^{-1}. (3)

Q. No 6 (a) State and explain the work–energy theorem. How is the mechanical work expressed in terms of pressure and volume for a gas? Derive the equation. (5)

(b) A spring with a spring constant 200 N m^{-1} is stretched by 0.5 m. Find the elastic *P.E.* stored in the spring. (3)

Q. No 7 (a). What are gravitational waves? How they can be predicted and detected? Also, give their four basic types. (5)

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(b) Two trucks P and Q are travelling along a motorway in the same direction. The leading truck 'P' travels at a steady speed of 12 ms^{-1}, the other truck Q, travelling at a steady speed of 20 ms^{-1}, sounds its horn to emit a steady note which P's driver estimate, has a frequency of 830 Hz. What frequency does Q's own driver hear? (Speed of sound = 340 ms^{-1}). (3)

Q. No 8 (a) What are ferrofluids. Give their working, uses and applications in detail. (5)

(b) A particle of charge $+20\ \mu C$ is placed between two parallel plates, 10 cm apart and having a potential difference of 0.5 kV between them. Calculate the electric field between the plates, and the electric force exerted on the charged particle. (3)

Q. No 9 (a) What is meant by radioactivity? Compare the properties and behaviour of three types of radiations. (5)

(b) A bar 1.0 m in length and located along x-axis moves with a speed of 0.75 c with respect to a stationary observer. What is the length of the bar as measured by the stationary observer? (3)

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Smart Syllabus / Accelerated Learning Program (ALP)-Deleted Topics and Exercise Questions for Computer Science & Entrepreneurship Grade-11

For the convenience of Grade-11 students, following content from the textbook of Computer Science and Entrepreneurship-11 are being deleted / excluded so that the syllabus can be reduced and made more manageable. It is mandatory for exam paper setters not to include any objective, subjective or other types of questions from the content that have been excluded when preparing the examination papers.

Detail of excluded content for Computer Science and Entrepreneurship-11 is as under:

Unit No.	Unit Name	Deleted Topics and Exercise Questions	Page No.
1.	Introduction to Software Development	• 1.5 Graphical Representation of Software Systems • **Exercise:** MCQ No. 7 • Short Questions No. 5, 6 • Long Questions No. 1, 3, 4	9-13 18 19 19
2.	Python Programming	• 2.8 Object-Oriented Programming in Python • 2.9 Advanced Python Concepts • 2.10 Testing and Debugging in Python • **Exercise:** MCQ No. 6 • Short Questions No. 5, 8 • Long Questions No. 1 (a, c)	35-36 36-37 38 39 40 40
3.	Algorithms and Problem Solving	• 3.3.3 Complexity Classes (P, NP, NP-hard, NP-complete) • **Exercise:** MCQs No. Q 2- 4 • Long Questions No. 1	45-46 54 55
4.	Computational Structures	• No Topic and Exercise Questions are deleted. (Complete Chapter / Exercise is retained.)	---
5.	Data Analytics	• 5.3 Building Statistical Models • 5.4.1.5 Boxplots • **Exercise:** MCQs No. Q 1, 4, 5, 7, 8 • Short Questions No. 1, 2 • Long Questions No. 1, 2	74-79 82 84-85 85 85

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Unit No.	Unit Name	• Deleted Topics and Exercise Questions	Page No.
6.	Emerging Technologies	• 6.4 Introduction to Blockchain Technology • 6.5 Applications and Implications of Blockchain • **Exercise:** MCQs No. Q 3, 5, 8 • Short Questions No. 1, 2 • Long Question No. 4	92-95 95-97 99 100 100
7.	Legal and Ethical Aspects of Computing System	• 7.3 The Digital Divide and its Impacts • **Exercise:** MCQ No. 5 • Short Question No. 3 • Long Question No. 2	106-108 113 114 114
8.	Online Research and Digital Literacy	• No Topic and Exercise Questions are deleted. (Complete Chapter / Exercise is retained.)	---
9.	Entrepreneurship in Digital Age	• 9.5 Financial Concepts for Business • **Exercise:** MCQ No. 8 • Short Question No. 7	133-135 140 140

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Instructions for Preparation of Exam Paper of Computer Science and Entrepreneurship for Grade-11

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of Computer Science and Entrepreneurship for Grade-11 will carry 75 marks.

Objective Type = 15 marks + Subjective Type = 60 marks.

Timing of the paper will be 2:30 hours.

(Objective Type = 20 minutes + Subjective Type = 2:10 hours)

The paper will be made as per following details:

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<table>
<tr>
<td>Part-I:
Objective:</td>
<td>Q-1: 15 Multiple Choice Questions from entire content of the textbook. The detail is as follows:
<table>
<tr><th>Chapter No.</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th></tr>
<tr><td>No. of MCQs</td><td>3</td><td>1</td><td>1</td><td>1</td><td>2</td><td>1</td><td>2</td><td>2</td><td>2</td></tr>
</table>
</td>
<td>1 × 15 = 15</td>
</tr>
<tr>
<td rowspan="3">Part-II:
Subjective:</td>
<td>Q-2: 6 short answer questions have to be answered out of 9. SAQs will be given from the content of the textbook. The detail is as follows:
<table>
<tr><th>Chapter No.</th><th>1</th><th>2</th><th>8</th></tr>
<tr><td>No. of Short Questions per Chapter</td><td>4</td><td>3</td><td>2</td></tr>
</table>
</td>
<td>2 × 6 = 12</td>
</tr>
<tr>
<td>Q-3: 6 short answer questions have to be answered out of 9. SAQs will be given from the content of the textbook. The detail is as follows:
<table>
<tr><th>Chapter No.</th><th>3</th><th>6</th><th>7</th></tr>
<tr><td>No. of Short Questions per Chapter</td><td>3</td><td>4</td><td>2</td></tr>
</table>
</td>
<td>2 × 6 = 12</td>
</tr>
<tr>
<td>Q-4: 6 short answer questions have to be answered out of 9. SAQs will be given from the content of the textbook. The detail is as follows:
<table>
<tr><th>Chapter No.</th><th>4</th><th>5</th><th>9</th></tr>
<tr><td>No. of Short Questions per Chapter</td><td>3</td><td>3</td><td>3</td></tr>
</table>
</td>
<td>2 × 6 = 12</td>
</tr>
</table>

Part-III: Subjective:	This section will contain five detailed questions and students have to attempt any three. All these questions carry 8 marks each. These questions will be given from the content of the textbook. The detail is as follows: **Q-5:** One question will be given from Chapter No. 2 **Q-6:** One question will be given from Chapter No. 3 **Q-7:** One question will be given from Chapter No. 4 **Q-8:** One question will be given from Chapter No. 5 **Q-9:** One question will be given from Chapter No. 7	**3 × 8 = 24**

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MODEL PAPER FOR COMPUTER SCIENCE AND ENTREPRENEURSHIP GRADE-11

Objective (Part-I)

Time Allowed: 20 mins **Max. Marks: 15**

Question 1: Multiple Choice Questions (MCQ)

Encircle the correct answer. Four possible answers A, B, C, D are given to each question. The choice which you think is correct, fill that circle in front of that question with marker or pen ink in the answer book. Cuttings or filling two or more circles will result in zero mark in that question.

i. _____ design pattern is a way to make sure that a specific object or resource is created only once in a program:

a. Factory
b. Singleton
c. Observer
d. Strategy

ii. Software development model involving short cycles or sprints:

a. Waterfall model
b. Lean Software development
c. Egale Methodology
d. Scrum

iii. Non-functional requirements are mainly concerned with:

a. System usability and performance
b. Business rules
c. Data input and validation
d. Core logic of the application

iv. The operator used for exponentiation in Python is:

a. **
b. ##
c. //
d. /

v. Time Complexity of Depth First Search (DFS) in a graph is:

a. O (n log n)
b. O(v)
c. O(V+E)
d. O(n)

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vi. An operation that removes an item from the top of the stack:

a. Push
b. Pop
c. Peek
d. Add

vii. The square of the standard deviation is known as:

a. Mean
b. Variance
c. Median
d. Range

viii. A line graph is most useful for:

a. Comparing categories
b. Showing trends over time
c. Displaying proportions
d. Visualizing frequency distributions

ix. A cloud deployment model combining public and private cloud features:

a. Public cloud
b. Hybrid cloud
c. Community cloud
d. Multi-cloud

x. The type of harmful software that secretly monitors user activity:

a. Spam
b. Cookies
c. Spyware
d. Pharming

xi. The treat involving user redirections to fake websites:

a. phishing
b. Spam
c. Spyware
d. Pharming

xii. Boolean operator used to exclude a term from search results:

a. OR
b. AND
c. NOT
d. NEITHER

xiii. Which of the following does not fall under the category of Intellectual Property (IP)?

a. Copyright
b. Trademark
c. Patent
d. Physical Properties

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xiv. A technology commonly used in design thinking is:

a. SWOT Analysis
b. Brainstorming
c. Learning manufacturing
d. Data mining

xv. The Primary goal of Entrepreneurship is:

a. To create new technologies
b. To manage finances
c. To solve problems and create value
d. To compete with large corporations

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Subjective (Part-II)

Time Allowed: 2:10 hours **Max. Marks: 60**

Q# 2: Write short questions to any six (6) questions: **(2 × 6 = 12)**

i. Differentiate between functional and non-functional requirements.

ii. Why testing phase is important in Software Development Life Cycle?

iii. Describe the factory pattern with an example.

iv. Describe the role of Sprints in Agile.

v. Differentiate integer and float data types in python.

vi. How default parameters work in Python?

vii. Write the syntax of a simple if-else statement in Python.

viii. Describe the purpose of a trademark.

ix. Why is it important to evaluate the reliability of online sources?

Q# 3: Write short questions to any six (6) questions: **(2 × 6 = 12)**

i. Summarize the key idea behind greedy algorithms.

ii. Differentiate between well-defined and ill-defined problems.

iii. Outline main steps involved in Generate-and-test method.

iv. What is edge computing?

v. Differentiate between Elasticity and on-demand access in Cloud computing.

vi. Describe the concept of serverless architecture.

vii. What do you mean by PaaS? Give an example.

viii. Why is it important for users to understand the “Terms of Use”?

ix. Differentiate Phishing and Pharming.

Q# 4: Write short questions to any six (6) questions: **(2 × 6 = 12)**

i. How the insert ( ) function works in python List?

ii. Differentiate between Enqueue and Dequeue operations in Queue.

iii. Discuss the role of leaf node and root node in a tree.

iv. Briefly describe two types of data visualization.

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v. Define probability with an example.

vi. Find Median of six students scored 40, 50, 60, 70, 80 and 90.

vii. Briefly define Entrepreneurship.

viii. What is the main focus of Design Thinking?

ix. Explain the importance of a Business Pitch.

Subjective (Part-III)

Note: Attempt any three long answers from the following questions: (3 × 8 = 24)

Q#5: Write a Python program using while loop to print all the odd numbers between 1 and 100. Also count and print the total number of odd numbers. (8)

Q#6: Discuss the difference between time complexities and space complexities. How do they impact the choice of an algorithm for a specific problem? (8)

Q#7: Define Graph, differentiate between Directed and Undirected Graphs. (8)

Q#8: Explain Data Collection methods. (8)

Q#9: Explain the common clauses found in term of use and describe how they protect both the service provider and the user. (8)

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Punjab Education, Curriculum, Training & Assessment Authority
Smart Syllabus / Accelerated Learning Program (ALP)-Deleted Topics and Exercise Questions for Biology-11 (Academic Session 2026-27)

To ensure timely curriculum completion and effective learning within the educational calendar of the Academic Session 2026-27, the following topics of Biology-11 have been deleted under the Accelerated Learning Program (ALP). This adjustment has been made carefully to prevent any learning loss, content overlap or conceptual gap for students. The modified scheme retains all core concepts required for progression to higher grades, while maintaining curriculum coherence across science subjects.

Chapter No. / Name	Deleted Topics and Exercise Questions	Page No.
1 Biodiversity and Classification	How are Archaea unique?	2-3
	• 1.2 Taxonomic Hierarchy	5-7
	• Table	7
	• 1.5 Classification of Vertebrates	19-25
	• 1.6 Classification of Viruses	25-26
	• 1.7 Biodiversity	27-29
	• 1.8 Species and Speciation	29-30
	• MCQs No.1-2 & 5-10	30-31
	• Long Questions No. 1-2 & 6-11	32
	• Inquisitive Questions (All)	32
2 Bacteria and Viruses	• 2.3 Motility in Bacteria	37
	• 2.5 Bacteria; Ecology and Diversity	39-41
	• 2.6 Importance of Bacteria	41-42
	• MCQs No. 4, 6 & 8	45-46
	• Short Questions No. 11-14	46-47
	• Long Questions No. 2, 5 & 6	47
	• Inquisitive Questions (All)	47
3 Cells and Subcellular Organelles	• 3.1 Cells –The Basic Unit of Life	48-49
	• 3.2 Cell Theory	49-51
	• 3.3 Microscopy	51-54
	• Techniques to study the structure of plasma membrane	58-59
	• Difference between Eukaryotic and Prokaryotic Cells	76-77
	• Short Questions No. 1 & 2	88
	• Inquisitive Questions (All)	90

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4 Molecular Biology	• 4.1 Biological Molecules	92-93
	• 4.2 Types of Bonds in Biology	93-94
	• 4.3 Condensation (Synthesis) and Hydrolysis	94-95
	• Figure 4.38 and side box	118
	• Figure 4.43 Only structure of NAD	121
	• Short Question No. 1	125
	• Long Questions No. 1, 2	126
	• Inquisitive Questions (All)	126
5 Enzymes	• 5.4 Factors affecting the rate of enzyme action	131-133
	• MCQ No. 6	138
	• Short Question No. 7	139
	• Long Questions No. 5-8	139
	• Inquisitive Questions (All)	139
6 Bioenergetics	• ATP; The Energy Currency of Cells	141
	• Role of Photosynthetic Pigments, Chlorophylls, Accessory Pigments	144-145
	• Other Organic Molecules as Fuel for Cellular Respiration	161
	• 6.3 Photorespiration	161-164
	• Short Questions No. 7 & 10	165
	• Long Questions No. 1 & 13-16	165-166
	• Inquisitive Questions (All)	166
7 Structural and Computational Biology	Entire unit is deleted along with its all MCQs, Short questions, Long questions and Inquisitive questions	167-176
8 Plant Physiology	• 8.1 Nutrition in Plants	177-180
	• 8.3 Support in Plants	182-183
	• 8.4 Water Potential	183-184
	• Plant Growth Regulators	192-194
	• MCQ No. 10	200
	• Short Questions No. 1-3	201
	• Inquisitive Questions (All)	201
9 Human Digestive System	• Storage and Metabolic Role of the Liver	212
	• MCQ No. 10	213
	• Inquisitive Questions (All)	214

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10 Human Respiratory System	• Properties of the Respiratory Surface	216
	• 10.2 Transport of Gases	221-223
	• Otitis media	226
	• MCQs No. 6 & 7	229
	• Short Questions No. 1 & 6	230
	• Long Questions No. 2 & 3	230
	• Inquisitive Questions (All)	230
11 Human Circulatory System	• 11.2 Blood vessels	238-242
	• 11.4 Cardiovascular Disorders	246-249
	• MCQ No. 1	252
	• Short Questions No. 1, 5, 7, 8 & 10	253
	• Long Questions No. 4, 5 & 9-13	253-254
	• Inquisitive Questions (All)	254
12 Human Skeletal and Muscular Systems	• Bone Development	257-258
	• Box	264
	• Both boxes	265
	• 12.2 Disorders of Skeletal System	266-270
	• Difference between Tetany and Tetanus and Boxes	277
	• Short Questions No. 8, 9 & following two parts of Q. 15: ○ Rheumatoid arthritis and osteoarthritis ○ Tetany and tetanus	278-279
	• Long Questions No. 3, 4, 11 & 12	279
	• Inquisitive Questions (All)	279

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Instructions for Preparation of
Exam Paper of Biology for Grade-11

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of Biology for Grade-11 will consist of 85 marks.

Objective Type = 17 + Subjective Type = 68 marks.

Timing of the paper will be 3 hours.

(Objective Type = 20 minutes + Subjective Type = 2:40 hours)

The paper will be made as per following details:

PCTAA

<table>
<tr>
<td>Part-I:
Objective:</td>
<td>Q-1: 17 Multiple Choice Questions from entire content of the textbook. The detail is as follows:
<table>
<tr><th>Chp. No.</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th></tr>
<tr><td>No. of MCQs</td><td>2</td><td>1</td><td>1</td><td>2</td><td>1</td><td>2</td><td>2</td><td>1</td><td>1</td><td>2</td><td>2</td></tr>
</table>
</td>
<td>1 × 17 = 17</td>
</tr>
<tr>
<td rowspan="3">Part-II:
Subjective:</td>
<td>Q-2: 8 short answer questions have to be answered out of 12. SAQs will be given from the entire content of the textbook. The detail is as follows:
<table>
<tr><th>Chapter No.</th><th>1</th><th>3</th><th>8</th><th>11</th></tr>
<tr><td>No. of Short Questions per Chapter</td><td>2</td><td>3</td><td>4</td><td>3</td></tr>
</table>
</td>
<td>2 × 8 = 16</td>
</tr>
<tr>
<td>Q-3: 8 short answer questions have to be answered out of 12. SAQs will be given from the entire content of the textbook. The detail is as follows:
<table>
<tr><th>Chapter No.</th><th>2</th><th>5</th><th>9</th><th>12</th></tr>
<tr><td>No. of Short Questions per Chapter</td><td>2</td><td>3</td><td>3</td><td>4</td></tr>
</table>
</td>
<td>2 × 8 = 16</td>
</tr>
<tr>
<td>Q-4: 6 short answer questions have to be answered out of 9. SAQs will be given from the entire content of the textbook. The detail is as follows:
<table>
<tr><th>Chapter No.</th><th>4</th><th>6</th><th>10</th></tr>
<tr><td>No. of Short Questions per Chapter</td><td>3</td><td>3</td><td>3</td></tr>
</table>
</td>
<td>2 × 6 = 12</td>
</tr>
</table>

<table>
<tr>
<td>Part-III:
Subjective:</td>
<td>This section will contain 5 detailed questions given from the entire content of the textbook. These questions will be bifurcated in two-parts a & b (carrying 4 marks each) and students have to attempt 3 questions. The detail is as follows:
Q-5:
<table>
<tr><td>Chapter No.</td><td>1</td><td>11</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-6:
<table>
<tr><td>Chapter No.</td><td>3</td><td>9</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-7:
<table>
<tr><td>Chapter No.</td><td>6</td><td>10</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-8:
<table>
<tr><td>Chapter No.</td><td>2</td><td>12</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
Q-9:
<table>
<tr><td>Chapter</td><td>4</td><td>8</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table>
</td>
<td>3 × 8 = 24</td>
</tr>
</table>

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MODEL PAPER OF BIOLOGY FOR CLASS-11

Objective Type

Paper: BIOLOGY

Time Allowed: 20 Minutes **Max. Marks: 17**

Q-1: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero marks in that question.

1	According to Carl Woese's system, which of the following is NOT a domain?	
	A) Archaea	B) Bacteria
	C) Protista	D) Eukarya
2	A marine biologist observes a sessile, cylindrical Cnidarian attached to a rock reproducing asexually. Which body form is it?	
	A) Medusa	B) Larva
	C) Polyp	D) Ephyrans
3	During sporulation, what happens to the DNA of the vegetative cell?	
	A) It doubles	B) It disintegrates
	C) It remains intact	D) It forms RNA
4	Which property of the lipid bilayer makes it impermeable to sugars and polar amino acids?	
	A) Hydrophilic interior	B) Hydrophobic interior
	C) Presence of glycoproteins	D) Presence of cholesterol only
5	If a cell has high concentration of lipids, what property of water will influence their arrangement?	
	A) Heat of vaporization	B) Hydrophobic exclusion
	C) Specific heat capacity	D) Hydrogen bonding in proteins
6	If a DNA strand has the sequence 5'-AGCT-3', what is its complementary strand sequence?	
	A) 3'-TCGA-5'	B) 5'-TCGA-3'
	C) 3'-AGCT-5'	D) 5'-AGCT-3'
7	The enzymes catalyse non-hydrolytic addition or removal of groups from substrate:	
	A) Hydrolases	B) Lyases
	C) Isomerase	D) Transferases
8	How does ATP synthase produce ATP during light-dependent reactions?	
	A) By hydrolysing glucose	B) By using light directly
	C) By chemiosmosis	D) By splitting NADPH

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9	In first step of citric acid cycle Acetyl Co enzyme reacts with oxaloacetate to form	
	A) Pyruvate	B) Fumarate
	C) Isocitrate	D) Citrate
10	How does abscisic acid affect guard cells?	
	A) Increases K+ influx	B) Promotes stomatal opening
	C) Inhibits K+ uptake	D) Enhances sugar formation
11	Cells with spherical nuclei in the centre are found in:	
	A) Zone of cell division	B) Zone of elongation
	C) Zone of differentiation	D) Epidermis
12	What is the function of the pyloric sphincter?	
	A) To store food	B) To allow food into the oesophagus
	C) To absorb nutrients	D) To regulate chyme release
13	What type of ring structure holds the iron ion in a haem group?	
	A) Peptide ring	B) Purine ring
	C) Porphyrin ring	D) Benzene ring
14	How long does diastole last in one complete heartbeat?	
	A) 0.1 sec	B) 0.2 sec
	C) 0.3 sec	D) 0.4 sec
15	Which ECG segment, if prolonged, might indicate a first-degree heart block?	
	A) PR segment	B) ST segment
	C) QT interval	D) QRS complex
16	Which protein is found in thick filaments?	
	A) Actin	B) Tropomyosin
	C) Troponin	D) Myosin
17	Which membrane covers the outer surface of bones?	
	A) Perichondrium	B) Endosteum
	C) Periosteum	D) Epithelium

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Paper: BIOLOGY (Subjective Type)

Time: 2:40 hours **Total Marks: 68**

Section-I

Q. 2. Attempt any EIGHT (8) short questions. **(2 × 8=16)**

(i) Classify bacteria on the basis of respiration.

(ii) Compare the characteristics of Protozoa and Algae with examples.

(iii) Differentiate the composition of primary and secondary wall.

(iv) Write the steroid signaling for production of specific production in cells.

(v) Define nuclear pore complex? Write the name of its sub units.

(vi) How are vessels different from tracheids in structure?

(vii) How would sugar transport be affected if sucrose were not actively loaded into the phloem?

(viii) How plants protect themselves in freezing temperature and high temperature.

(ix) Differentiate Autumn wood and spring wood.

(x) Write the structure of layers which separate heart from other parts.

(xi) What is a SA node? Give its functions.

(xii) Give the importance of Hepatic portal vein.

Q. 3. Attempt any EIGHT (8) short questions. **(2 × 8=16)**

(i) How does the structure of bacterial flagellum differ from eukaryotic flagellum?

(ii) What are mesosomes? What are its functions?

(iii) What are the coenzymes? Give two examples.

(iv) Differentiate between reversible and irreversible inhibitors?

(v) What is hydrolase/? Give three examples

(vi) Write the function of chief cells and oxyntic cells.

(vii) Why doesn't food go into the windpipe when we swallow?

(viii) Differentiate between chyme and chyle.

(ix) Differentiate epiphyses and diaphysis.

(x) Define muscle and muscle fibres.

(xi) Evaluate the role of acetylcholine in muscle contraction.

(xii) Define tetany. How it is treated?

Q. 4. Attempt any SIX (6) short questions. **(2 × 6=12)**

(i) Draw the structural formula of α-D- glucose and β-D-glucose

(ii) Differentiate the composition of milk sugar and cane sugar.

(iii) What are prostaglandins? Write any three functions.

(iv) Write the equations showing alcoholic and lactic acid fermentation.

(v) Differentiate between photosynthesis and respiration

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(vi) Define compensation point. When does it occur?

(vii) Define pleural cavity. How is it formed?

(viii) Give the role of diaphragm in breathing.

(ix) What is myoglobin? Give its one function.

(Section-II)

Note: Attempt any THREE questions. **(8× 3 = 24)**

Q. 5. a) What are the main features of chordates? (4)

b) Justify in what way blood circulatory system of humans is dependent on lymphatic system. (4)

Q. 6. a) Describe the structure of a mitochondrion in detail. How does its structure relate to its function in the cell? (4)

b) Small intestine walls are well adapted for absorption of food. Justify. (4)

Q. 7. a) How does chemiosmosis couple redox reactions with ATP formation? (4)

b) Explain the structure of lungs. (4)

Q. 8. a) Describe the process of sporulation in bacteria. (4)

b) Describe the steps involved in the sliding filament model of muscle contraction. (4)

Q. 9. a) Justify the significance of the sequence of amino acids through the example of sickle cell anemia. (4)

b) Explain in detail the pressure-flow hypothesis for phloem translocation. (4)

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Punjab Education, Curriculum, Training and Assessment Authority

Smart Syllabus / Accelerated Learning Program (ALP)-Deleted Content and Questions of Chemistry-11 for Annual Exam-2027

Unit No.	Unit Name	Deleted / Excluded Topics and Questions
1	Periodic Table and Periodic Properties	Topic: 1.1 (Historical Background), 1.2 (Modern periodic table-main features (Page 2-3),1.4 (Block in Periodic Table) & 1.5 (Families in Periodic Table) (Page 4-5). Multiple Choice Questions (MCQs): I, II Short Answers Questions (SAQs): c, g
2	Atomic Structure	2.3.1 Atomic Spectra) (Page 24), 2.7 (Electronic Configuration and the Periodic Table), 2.8 (Electronic configuration of ions and free radicals), 2.9 (Electronic configuration and the formation of semiconductors) (Page 35-39). Short Answers Questions (SAQs): f, g, i Descriptive Questions (DQs): Q. 5
3	Chemical Bonding	Topic: 3.1 (Types of Bonding), 3.2 (Electronegativity and the type of bond), 3.3 (Intermolecular Forces), 3.4 (Bond Energy and Bond Length), 3.5 (A comparison among ion, covalent, metallic bond and intermolecular forces) (Page 44-51). Multiple Choice Questions (MCQs): I, II, III, VII, XII Short Answers Questions (SAQs): a, b, i, k, l, m, n, o, p
4	Stoichiometry	Topic: 4.7 (Limiting and Excess Reactant) (Page 81-85), 4.9 (Importance of Stoichiometry in production and dosage of medicine) (Page-87) Short Answers Questions (SAQs): g (Page-89) Descriptive Questions (DQs): Q. 3 Numerical Problem: Q. 6

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5	States and Phases of Matter	Topic: 5.10 (Energetics of phase changes), 5.11 (Solids) (Page 104-105) Multiple Choice Questions (MCQs): IV Short Answers Questions (SAQs): d, j, Numerical Problems: Q. 8, 9
6	Chemical Energetics	Topic: 6.11 (Entropy), 6.12 (The Free Energy Change) (Page 129-136) Multiple Choice Questions (MCQs): IV, XI, XII Short Answers Questions (SAQs): c, j, Numerical Problems: Q. 9, 10
7	Reaction Kinetics	Topic: 7.5 (Determination of Rate Constant), 7.6 (Reaction Mechanism) (Page 154-158) Multiple Choice Questions (MCQs): VII. VIII. IX, XIII Short Answers Questions (SAQs): c, f, g, h, k, l, m, n, o Descriptive Questions (DQs): Q.4, Q.6 Numerical Problems: Q. 7, 8
8	Chemical Equilibrium	Topic: 8.3 (Relation between macroscopic and microscopic events), 8.4 (Dynamic Equilibrium between two physical states), 8.5 (Conditions for Equilibrium), (Page 166-167), 8.9 (Relationships between various Equilibrium Constants), (Page 172-175), 8.16 (Industrial Applications of Chemical Equilibrium) (Page 179-181) Multiple Choice Questions (MCQs): II, IV, VII Short Answers Questions (SAQs): e, h, i, Descriptive Questions (DQs): Q. 8-9
9	Acid-Base Chemistry	Topic: 9.1 (Bronsted-Lowry Concept), 9.2 (Lewis's concept of acids and bases), (Page 186-188), 9.9 (Salt Hydrolysis), 9.10 (Acid-Base Indicators) (Page 200-204) Multiple Choice Questions (MCQs): I, IV, V, VI, VII, IX

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		Short Answers Questions (SAQs): c, d, e, f, k Descriptive Questions (DQs): Q. 3-4 & 7
10	Electrochemistry	Topic: 10.8 (Mass of a substance deposited during Electrolysis), 10.9 (Amount of substance produced during Electrolysis), 10.10 (Avogadro's Constant by the Electrolytic Method) (Page 216-219), 10.16 (Applications of E^o values), 10.17 (Variation of E^o with Ion Concentration), 10.18 (Nernst Equation), 10.19 (Activity Series of Metals), 10.20 (Feasibility of Redox Reactions from Activity Series or Reaction Data) (Page 224-230), 10.22 (Winkler Method, BOD and DO) (Page 231-232) Multiple Choice Questions (MCQs): I, II, VIII, IX, X, XI Short Answers Questions (SAQs): g, h, i, j Descriptive Questions (DQs): Q. 3-4 Numerical Problems: Q. 7-9
11	Hydrocarbons	Topic: 11.9 (Conjugated Dienes), 11.10 (Isomerism), 11.11 (Organic Redox Reactions) (Page 257-261) Multiple Choice Questions (MCQs): I, X Short Answers Questions (SAQs): a, f, h, j, l Descriptive Questions (DQs): Q. 6
12	Nitrogen and Sulfur	Topic: 12.12 (Role of Sulfur in Organic Synthesis), 12.13 (Sulfuric Acid) (Page 275-280) Multiple Choice Questions (MCQs): IX, X, XI, XII Short Answers Questions (SAQs): i, l, m, n, o, p Descriptive Questions (DQs): Q. 5-6
13	Halogens	Topic: 13.6 (Relative thermal stabilities of hydrogen halides in terms of their bond strength), 13.7 (Relative Reactivity of halide ions as Reducing Agents), 13.8 (Reactions of halides with aqueous silver ion followed by aqueous ammonia), 13.9 (Reactions of halides (X^-) with concentrated Sulfuric Acid),13.10 (Reactions of chlorine with cold and hot aqueous sodium hydroxide), (Page 288-293)

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		Multiple Choice Questions (MCQs): III, IV, V, VII, IX, X Short Answers Questions (SAQs): k, m, n, o Descriptive Questions (DQs): Q. 3 & 5
14	Atmosphere	Topic: 14.8 (Air Quality), 14.9 (Air Quality and Human Health), 14.10 (Air Pollution and Health Risks), 14.11 (Methods and techniques to measure and monitor Air Quality), 14.12 (Experiments and data collection to test hypothesis about Air Quality), 14.13 (Analyze data and interpret Air Quality),14.14 (Strategies used to reduce Air Pollution), 14.15 (Laws and regulations related to atmosphere), 14.16 (Economic, social and political issues) (Page 306-311). Multiple Choice Questions (MCQs): III, IV, VIII, XI Short Answers Questions (SAQs): d, e, h, i, k, l, m Descriptive Questions (DQs): Q.6
15	Basic Separation Techniques	**Full chapter is deleted / excluded**
16	Lab Safety and Practical Skills	**Full chapter is deleted / excluded**

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Instructions for Preparation of Exam Paper of Chemistry for Class 11

ESSENTIAL INSTRUCTIONS FOR PAPER SETTERS

The paper of Chemistry for Grade-11 will consist of 85 marks.

Objective Type = 17 + Subjective Type = 68 marks.

Timing of the paper will be 3 hours.

(Objective Type = 20 minutes + Subjective Type = 2:40 hours)

The paper will be made as per following details:

<table>
<tr><td>Part-I:
Objective:</td><td>Q-1: One multiple-choice question (MCQ) will be given from each chapter, except chapters 1, 6, and 10, from which two MCQs will be given each. MCQs will be asked from the entire content of the textbook.</td><td>1 × 17= 17</td></tr>
<tr><td rowspan="3">Part-II:
Subjective:</td><td>This section will contain three short answer questions. These short answer questions will be asked from the entire content of the textbook. The detail is as follows:
Q-2: 8 short answer questions have to be answered out of 12. The detail is as follows:
<table>
<tr><td>Chapter No.</td><td>1</td><td>2</td><td>7</td><td>8</td><td>13</td></tr>
<tr><td>No. of Short Questions</td><td>3</td><td>2</td><td>2</td><td>2</td><td>3</td></tr>
</table></td><td>2 × 8 = 16</td></tr>
<tr><td>Q-3: 8 short answer questions have to be answered out of 12. The detail is as follows:
<table>
<tr><td>Chapter No.</td><td>3</td><td>5</td><td>6</td><td>9</td><td>11</td></tr>
<tr><td>No. of Short Questions</td><td>3</td><td>2</td><td>3</td><td>2</td><td>2</td></tr>
</table></td><td>2 × 8 = 16</td></tr>
<tr><td>Q-4: 6 short answer questions have to be answered out of 9. The detail is as follows:
<table>
<tr><td>Chapter</td><td>4</td><td>10</td><td>12</td><td>14</td></tr>
<tr><td>No. of Short Questions</td><td>2</td><td>3</td><td>2</td><td>2</td></tr>
</table></td><td>2 × 6 = 12</td></tr>
<tr><td>Part-III:
Subjective:</td><td>This section will contain five detailed questions bifurcated in two-parts a & b (carrying 4 marks each) and students have to attempt 3 questions. The detailed questions will be given from the entire content of the textbook. The detail is as follows:
Q-5:
<table>
<tr><td>Chapter No.</td><td>2</td><td>5</td></tr>
<tr><td>Part</td><td>a</td><td>b</td></tr>
</table></td><td>3 × 8 = 24</td></tr>
</table>

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Q-6:

Chapter No.	**3**	**7**
Part	a	b

Q-7:

Chapter No.	**8**	**9**
Part	a	b

Q-8:

Chapter No.	**11**	**14**
Part	a	b

Q-9:

Chapter No.	**12**	**13**
Part	a	b

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MODEL PAPER OF CHEMISTRY FOR CLASS-11

Objective Type

Time Allowed: 20 Mins. **Max. Marks: 17**

Q-1: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle with marker or pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

(i) Which is the oxidation state of sulfur in the sulfate ion (SO_4^{2-})?

(A) +4 (B) +2

(C) +6 (D) 0

(ii) Which of the following elements have the highest ionization energy?

(A) Sodium (Na) (B) Megnesium (Mg)

(C) Aluminum (Al) (D) Argon (Ar)

(iii) How many **'d'** orbitals are there in a given energy level?

(A) 1 (B) 3

(C) 5 (D) 7

(iv) The enthalpy of neutralization of NaOH and HCl is?

(A) - 57.1kj mol^{-1} (B) + 436 kj mol^{-1}

(C) -27.8 kj mol^{-1} (D) 01kj mol^{-1}

(v) The number of **σ** and **π** bonds in the N_2 molecule are:

(A) One σ and one π bond (B) One σ and two π bonds

(C) Three σ bonds only (D) Two σ and one π bonds

(vi) Which one of the following has the greatest mass?

(A) 0.5 mol of N_2 (B) 0.5 mol of NH_3

(C) 0.5 mol of He (D) 0.5 mol of CO_2

(vii) When water freezes at 0 °C, its density decreases due to:

(A) Cubic structure of ice (B) Decrease in volume

(C) Decrease in density (D) Empty spaces in structure of ice

(viii) The enthalpy change for a reaction depends on:

(A) Pathway taken from reactants to products

(B) Presence of catalyst

(C) Initial and final states of reactants and products

(D) Rate of reaction

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(ix) The order of chemical reaction that is independent of concentration is:

(A) Second order reaction (B) First order reaction

(C) Zero order reaction (D) Pseudo first order reaction

(x) For a specific reaction, the value of the equilibrium constant $\mathbf{K_c}$:

(A) Always remain the same at different reaction conditions.

(B) Increases if the concentration of one of the products is increased

(C) Changes with changes in the temperature

(D) Increases if the concentration of one of the reactants is increased

(xi) Which of the following pairs forms a buffer solution?

(A) HCl and NaCl (B) CH_3COONa and CH_3COOH

(C) HCl and NaOH (D) NH_3 and Na_2SO_4

(xii) If the salt bridge is not used between two half cells in a Galvanic cell, then the voltage:

(A) Decreases slowly (B) Decreases rapidly

(C) Does not change (D) Drop to zero

(xiii) Which of the following statements about a photovoltaic cell is correct?

A) It converts chemical energy directly into electrical energy.

B) It converts light energy directly into electrical energy.

C) It converts electrical energy into light energy.

D) It stores energy like a battery.

(xiv) The most stable carbonium ion among the following is:

(A) CH_3^+ (B) $CH_3CH_2^+$

(C) $(CH_3)_2CH^+$ (D) $(CH_3)_3C^+$

(xv) Peroxyacetyl nitrate (PAN) formation starts when _____ reacts with the hydrocarbons.

(A) NO (B) NO_2

(C) O_3 (D) H_2O

(xvi) Which of the halogen molecules has the strongest bond?

(A) F_2 (B) Br_2

(C) Cl_2 (D) I_2

(xvii) Which gas causes yellow colour in photochemical smog?

(A) CO (B) SO_3

(C) NO_2 (D) SO_2

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Subjective Type (Part-I)

Time Allowed: 2.40 Hrs. **Max. Marks: 68**

Q. 2: Write short answers to any eight (08) questions: (2 × 8 = 16)

i. What is 1st ionization energy? Give an example.

ii. What are the factors that affect the electronegativity?

iii. Why oxides of sodium and magnesium are more ionic than the oxides of nitrogen and phosphorus?

iv. There are three orientations of p-orbital due to three values of magnetic quantum number. Justify it.

v. What is the purpose of Azimuthal Quantum Number and how is it represented?

vi. What do you understand by the rate of reaction?

vii. Differentiate between order and molecularity of a reaction?

viii. What is meant by the state of chemical equilibrium?

ix. Write two characteristics of equilibrium constant.

x. Why HF is weaker acid than HCl?

xi. Which halogen is the least reactive, which is the most reactive? Give reason.?

xii. How does the reactivity of halogens with hydrogen vary?

Q. 3: Write short answers to any eight (08) questions: (2 × 8 = 16)

i. Explain the difference between the formation of σ and π bonds in terms of Valence Bond Theory (VBT).

ii. Define bond order with one example.

iii. Define sp^2 hybridization with suitable example.

iv. Explain, at the molecular level, why evaporation leads to a cooling effect.

v. Why does the boiling point of a liquid increase when the external pressure rises?

vi. What factors influence the magnitude of the lattice enthalpy?

vii. Why does wood burn more rapidly in pure oxygen than in air?

viii. Why does common ion effect decrease solubility of a less soluble salt?

ix. How does a buffer maintain pH stability?

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x. Differentiate between aliphatic and aromatic hydrocarbons.

xi. Explain why alkanes do not undergo addition reactions.

xii. Define enthalpy change of Atomization with a suitable example.

Q. 4: Write short answers to any six (06) questions: (2 × 6 = 12)

i. List two reasons for inertness of N_2.

ii. What is the construction and function of a catalytic converter?

iii. Identify and briefly explain two major natural sources of air pollutants.

iv. How do Chlorofluorocarbons (CFCs) cause depletion of Ozone?

v. How is the concept of mole derived from Avogadro's number?

vi. What is stoichiometry? Give the basic assumptions of stoichiometric calculations.

vii. How and why electrical double layer is formed?

viii. During electrolysis of NaCl, why is Na not liberated at cathode?

ix. What are the advantages of salt bridge in a galvanic cell?

Subjective Type (Part II)

Note: Attempt any three questions.

Q.5:

(a) What are quantum numbers? Describe briefly principal and spin quantum numbers. (4)

(b) Discuss structural changes when water turns into ice. Justify the empty spaces in its crystals as compared to H_2O at 40 °C and lower density of ice. (4)

Q.6:

(a) Explain the orbital hybridization in NH_3 and BF_3. (4)

(b) Define catalysis and explain two types with one example each. (4)

Q.7:

(a) Define and explain the law of mass action and derive the expression for the equilibrium constant. (4)

(b) In a solution, the pH is 9.2, determine the product of water K_w at 25 °C. (4)

Q.8:

(a) Describe the following methods for the preparation of alkenes: (2, 2)

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i. Dehydrohalogenation of alkyl halides

ii. Dehydration of alcohol

(b) How does the burning of fossil fuel cause acid rain? Discuss in detail the chemical reaction. (4)

Q.9:

(a) How do the oxides of nitrogen (NO_x) cause the formation of chemical smog and PAN? Give its mechanism. (4)

(b) Describe the volatility of halogens and also explain its trends in detail. (4)

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