

Promotion Examination - 2017-18
Class - XI A,B,C & D
Mathematics

2018

com

Time : 3:00 Hrs { + 15 mins reading time }

Max.Marks : 100

General Instructions:

- i). The question paper consists of 29 questions divided into four sections A, B, C and D.
Section A comprises of 4 questions of 1 mark each.
Section B comprises of 8 Questions of 2 marks each.
Section C comprises of 11 Questions of 4 marks each.
Section D comprises of 6 Questions of 6 marks each.
- ii). All questions are compulsory, in some questions internal choice is given.
- iii). Try to attempt the question in serial order.
- iv). Use of calculators is not permitted

Section A

[Question number 1 to 4 carry 1 mark each]

1. Using the principle of mathematical induction, prove that $(1+x)^n \geq (1+nx)$, for all $n \in \mathbb{N}$, $x > -1$, assuming that $P(k)$ is true, check for $P(k+1)$.
2. Find the distance between $P(x_1, y_1)$ and $Q(x_2, y_2)$ when PQ is parallel to y -axis.
3. Find the centroid of a triangle, the mid points of whose sides are $D(1, 2, -3)$, $E(3, 0, 1)$ and $F(-1, 1, -4)$.
4. Consider the experiment of rolling a die. Let E be the event "getting a prime number", F be the event "getting an odd number". Write the set representing the events " E and F ".

Section B

[Question number 5 to 12 carry 2 marks each]

5. Given three sets A , B and C , draw a Venn diagram for
 - i) $(A \cap B)'$
 - ii) $A \cap (B \cup C)$.
6. If $\cot \theta + \tan \theta = 2 \operatorname{cosec} \theta$, then find the general value of θ .
7. If $a + ib = \left(\frac{1-i}{1+i}\right)^{100}$, then find a and b .

8. How many 5-digit telephone numbers can be constructed using the digits 0 to 9 if each number starts with 67 and no digit appears more than once?.
9. The 4th term of a G.P. is square of its 2nd term, and the first term is -3. Determine its 7th term.
10. Find the equation of parabola passing through (4, -2), vertex (0, 0) and symmetric with respect to y-axis
11. Find the derivative of $(3x + 5)(1 + \tan x)$ w. r. to x.
12. A coin is tossed three times. Find the probability of getting
 i) no head ii) a head on first coin.

Section C
[Question number 13 to 23 carry 4 marks each]

13. Let $A = \{1, 2, 3, 4, 6\}$, let R be the relation on A defined by
 $R = \{(a, b) : a, b \in A, b \text{ is exactly divisible by } a\}$. Write R in roaster form also find the domain and range of R.

14. In ΔABC , prove that $a \cdot \sin(B - C) + b \cdot \sin(C - A) + c \cdot \sin(A - B)$.

OR

In ΔABC , prove that $\tan \frac{B - C}{2} = \frac{b - c}{b + c} \cdot \cot \frac{A}{2}$;

15. Represent $Z = \frac{2 + 6\sqrt{3}i}{5 + \sqrt{3}i}$ in the polar form.

16. Solve the following system of linear inequalities graphically :
 $3x + 2y \leq 150$, $x + 4y \leq 80$, $x \leq 15$ and $y \geq 0$.

17. In how many ways can the letters of the word "PERMUTATIONS" be arranged if the
 i) word start with P and ends with S ii) vowels are all together.

18. Find the coefficient of x in the expansion of $(1 - 3x + 7x^2) \cdot (1 - x)^{16}$.

OR

Find the middle term in the expansion of $\left(2ax - \frac{b}{x^2}\right)^{12}$

19. The sum of two numbers is 6 times their geometris mean. Show that numbers are in the ratio

$$(3 + 2\sqrt{2}) : (3 - 2\sqrt{2})$$

20. Reduce the equation $6x + 3y - 5 = 0$ into slope intercept form and find their slope, also x and y intercept.

21. Find $\lim_{x \rightarrow 0} f(x)$ and $\lim_{x \rightarrow 1} f(x)$, where $f(x) = \begin{cases} 2x + 3; & x \leq 0 \\ 3(x + 1); & x > 0 \end{cases}$

22. Line through the points $(-2, 6)$ and $(4, 8)$ is perpendicular to the line through the points $(8, 12)$ and $(x, 24)$. Find the value of x.

23. Find the equation of the hyperbola with eccentricity $\frac{3}{2}$ and foci at $(\pm 2, 0)$.

OR

Find the equation of the ellipse having foci at $(\pm 2, 0)$ and eccentricity $\frac{1}{2}$.

Section D

[Question number 24 to 29 carry 6 marks each]

24. In a town of 10,000 families, it was found that 40% families buy newspaper X, 20% families buy newspaper Y and 10% families buy newspaper Z, 5% families buy X and Y, 3% buy Y and Z and 4% buy X and Z. If 2% families buy all the three newspaper find the number of families which buy

i) X only ii) Y only iii) none of X, Y and Z.

OR

Out of the 100 students, 15 passed in English, 12 passed in Mathematics, 8 in Science, 6 in English and Mathematics, 7 in Mathematics and Science, 4 in English and Science, 4 in all the three. Find how many passed in

- i) English and Mathematics but not in Science ?
ii) Mathematics and Science but not in English ?
iii) Mathematics only ?

25. From a menu that offers 3 salads, 2 starters, 8 desserts, how many different combination of dinner with 1 salad, 1 starter and 1 dessert can be made ?

26. Find the term independent of x in the expansion of $\left(\frac{\sqrt{x}}{\sqrt{3}} + \frac{\sqrt{3}}{2x^2} \right)^{10}$.

27. Find the sum to n terms of the series: $1^2 + (1^2 + 2^2) + (1^2 + 2^2 + 3^2) + \dots$

OR

Find the sum of the first n terms of the series: $1 \times 2 \times 3 + 2 \times 3 \times 4 + 3 \times 4 \times 5 + \dots$

28. Using first principle, find the derivative of $f(x) = \text{Cosec } x$.

29. Find the mean, variance and standard deviation using short cut method :

Heights in cms	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115
No. of children	3	4	7	7	15	9	6	6	3

- निर्देश:-
- 1- इस प्रश्न-पत्र के तीन खंड हैं क,ख,और ग।
 - 2- तीनों खंडों के प्रश्नों के उत्तर देना अनिवार्य है।
 - 3- यथासंभव प्रत्येक खंड का उत्तर क्रमशः दीजिए।

(खण्ड-क)

प्र.1 निम्नलिखित गद्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-

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पशु और बालक भी जिनके साथ अधिक रहते हैं, उनसे परच जाते हैं। यह परचना परिचय ही है। परिचय प्रेम का प्रवर्तक है। बिना परिचय के प्रेम नहीं हो सकता। यदि देश-प्रेम के लिए हृदय में जगह करनी है तो देश के स्वरूप से परिचित और अभ्यस्त हो जाइए। बाहर निकलिये तो आँख खोलकर देखिए कि खेत कैसे लहलहा रहे हैं, नाले झाड़ियों के बीच कैसे बह रहे हैं, टेसू के फूलों से वनस्थली कैसी लाल हो रही है, कछारों में चौपायों के झुंड झुंड उधर-उधर चरते हैं चरवाहे तान लड़ा रहे हैं, अमराइयों के बीच गाँव झाँक रहे हैं; उनमें घुसिए, देखिए तो क्या हो रहा है। जो मिले उनसे दो-दो बातें कीजिए, उनके साथ किसी पेड़ की छाया के नीचे घड़ी बैठ जाइए और समझिए कि ये सब हमारे देश के हैं। इस प्रकार जब देश का रूप आपकी आँखों में समा जाएगा, आप उसके अंग-प्रत्यंग से परिचित हो जाएँगे, तब आपके अंतःकरण में इस इच्छा का सचमुच उदय होगा कि वह कभी न छूटे, वह सदा हरा-भरा और फला-फूला रहे, उनके धनधान्य की वृद्धि हो, उसके सब प्राणी सुखी रहें।

पर आजकल इस प्रकार का परिचय बाबुओं की लज्जा का एक विषय हो रहा है। वे देश के स्वरूप से अनजान रहने या बनने में अपनी बड़ी शान समझते हैं। मैं अपने एक लखनवी दोस्त के साथ साँची का स्तूप देखने गया। वह स्तूप एक बहुत सुंदर छोटी-सी पहाड़ी के ऊपर है। नीचे छोटा-मोटा जंगल है, जिसमें महुए के पेड़ भी बहुत-से हैं। संयोग से उन दिनों वहाँ पुरातत्व विभाग का कैंप पड़ा हुआ था। रात हो जाने से उस दिन हम लोग स्तूप नहीं देख सके, सवेरे देखने का विचार करके नीचे उतर रहे थे। वसंत का समय था। महुए चारों ओर टपक रहे थे। मेरे मुँह से निकला-"महुओं की कैसी महक आ रही है।" इस पर लखनवी महाशय ने चट मुझे रोककर कहा-" यहाँ महुए-सहुए का नाम न लीजिए, लोग देहाती समझेंगे।" मैं चुप हो रहा, समझ गया कि महुए का नाम जानने से बाबूपन में बड़ा भारी बट्ट लगता है। पीछे ध्यान आया कि वह वही लखनऊ है जहाँ कभी यह पूछने वाले भी थे कि गेहूँ का पेड़ आम के पेड़ से छोटा है या बड़ा।

- प्र.क) 'परिचय प्रेम का प्रवर्तक है'- का क्या आशय है ?
(ख) लेखक ने किन बाबुओं पर व्यंग्य किया है ?
(ग) लखनवी दोस्त ने लेखक को महुओं का नाम लेने से क्यों रोका ?
(घ) लखनऊ के लोगों पर क्या कटाक्ष किया गया है ?
(ङ) पुरातत्व विभाग का क्या काम होता है ?

प्र.2 निम्नलिखित काव्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए-

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ब्रह्मा से कुछ लिखा भाग्य में
मनुज नहीं लाया है,
अपना सुख उसने अपने
भुजबल से ही पाया है।
प्रकृति नहीं डर कर झुकती है
कभी भाग्य के बल से,
सदा हारती वह मनुष्य के
उद्यम से, श्रमजल से।
ब्रह्मा का अभिलेख पढ़ा-
करते निरुद्यमी प्राणी,
धोते वीर कु-अंक भाल के

बहा भुवों से पानी।
भाग्यवाद आवरण पाप का
और शस्त्र शोषण का,
जिससे रखता दबा एक जन
भाग दूसरे जन का।

- प्र.(क) प्रकृति मनुष्य के आगे कब झुकती है ?
(ख) भाग्य-लेख कैसे लोग पढ़ते हैं ?
(ग) भाग्यवाद को 'पाप का आवरण' और 'शोषण का शास्त्र' क्यों कहा गया है ?
(घ) इस काव्यांश से आपको क्या प्रेरणा मिलती है ?
(ङ.) 'भाल के कु-अंक' से कवि का क्या तात्पर्य है ?

अथवा

रोटी उसकी , जिसका अनाज, जिसकी ज़मीन,जिनका श्रम है;
अब कौन उलट सकता स्वतंत्रता का सुसिद्ध, सीधा क्रम है।
आजादी है अधिकार परिश्रम का पुनीत फल पाने का;
आजादी है अधिकार 'शोषणों की धज्जियाँ उड़ाने का।
गौरव की भाषा नई सीख, भिखमंगों की आवाज़ बदल,
सिमटी बाँहों को खोल गरुड़, उड़ने का अब अंदाज बदल।
स्वाधीन मनुज की इच्छा के आगे पहाड़ हिल सकते हैं;
रोटी क्या? ये अंबरवाले सारे सिंगार मिल सकते हैं।

- प्र.(क) आजादी क्यों आवश्यक है ?
(ख) सच्चे अर्थों में रोटी पर किसका अधिकार है ?
(ग) कवि ने किन पंक्तियों में गिड़गिड़ाना छोड़कर स्वाभिमानी बनने को कहा है।
(घ) कवि व्यक्ति को क्या परामर्श देता है ?
(ङ.) आजाद व्यक्ति क्या कर सकता है ?

- प्र.3 दैनिक हिंदुस्तान,कस्तुरबा गाँधी मार्ग, नई दिल्ली के संपादक को पत्र लिखकर दिल्ली में बढ़ रहे अपराधों के प्रति चिंता प्रकट कीजिए ।

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अथवा

केनरा बैंक कोयंबटूर शाखा के प्रबंधक के नाम पर लिखिए जिसमें अपना बचत खाता बंद करने का आवेदन हो।

- प्र.4 किसी एक विषय पर 250 शब्दों में निबंध लिखिए—

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- 1 महानगर की समस्याएँ
- 2 भारत में बढ़ता विदेशी-व्यापार
- 3 जबलपुर एक स्मार्ट सिटी-आपके सुझाव
- 4 सबसे बड़ा सुख-स्वस्थ शरीर

- प्र.5 निम्नलिखित प्रश्नों के उत्तर संक्षेप में दीजिए—

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- 1 शेयर बाजार की खबरें किस विशेष प्रकार की पत्रकारिता से संबद्ध हैं ?
- 2 सामान्य जन अपनी आवाज़ किस कॉलम के सहारे उठाते हैं ?
- 3 उल्टा पिरामिड शैली में सर्वाधिक महत्वपूर्ण बात को कहाँ स्थान दिया जाता है ?
- 4 इंटरनेट पत्रकारिता में संलग्न किन्हीं दो समाचार पत्रों के नाम लिखिए।
- 5 इलैक्ट्रॉनिक संचार माध्यमों में किन्हीं दो के नाम लिखिए।

- प्र.6 "महंगी शिक्षा" विषय पर लगभग 150 'शब्दों में फीचर लिखिए—

अथवा

"देश-निर्माण में महिलाओं की भूमिका" विषय पर लगभग 150 शब्दों में आलेख लिखिए -

प्र.7 निम्नलिखित काव्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए -

और इस अविश्वास-भरे दौर में
थोड़ा-सा विश्वास
थोड़ी-सी उम्मीद
थोड़े-से सपने
आओ, मिलकर बचाएँ
कि इस दौर में भी बचाने को
बहुत कुछ बचा है,
अब भी हमारे पास!

- 1 कवयित्री ने आज के युग को कैसा बताया है ?
- 2 कवयित्री क्या बचाना चाहती है ?
- 3 कवयित्री ने ऐसा क्यों कहा कि बहुत कुछ बचा है, अब भी हमारे पास ?
- 4 कवयित्री का स्वर आशावादी है या निराशावादी ?

अथवा

सबसे खरतनाक वह आँख होती है
जो सब कुछ देखती हुई भी जीम बर्फ होती है
जिसकी नजर दुनिया को मुहब्बत से चूमना भूल जाती है
जो चीजों से उठती अंधेपन की भाप पर ढुलक जाती है
जो रोजमर्रा के क्रम को पीती हुई
एक लक्ष्यहीन दुहराव के उलटफेर में खो जाती है

- 1 कवि तथा कविता का नाम बताइए।
- 2 कवि कैसी आँख को खतरनाक मानता है ?
- 3 'जो रोजमर्रा के क्रम को पीती हुई' पंक्ति का आशय बताइए।
- 4 आँख का अंधेपन की भाप पर ढुलकना क्या कटाक्ष करता है ?

प्र.8 निम्नलिखित काव्यांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए -

कहाँ तो तय था चिरागों हरेक घर के लिए,
कहाँ चिराग मयस्सर नहीं शहर के लिए।
यहाँ दरख्तों के साये में धूप लगती है,
चलो यहाँ से चलें और उम्र भर के लिए।

- प्र.1 भाव सौंदर्य स्पष्ट करें।
- 2 शिल्प सौंदर्य पर प्रकाश डालें।

अथवा

लहराते वे खेत दृगों में
हुआ बेदखल वह अब जिनसे,
हँसती थी उसके जीवन की
हरियाली जिनके तृन-तन से!
आँखों ही में घूमा करता
वह उसकी आँखों का तारा,
कारकुनों की लाठी से जो
गया जवानी ही में मारा!

- प्र.1 भाव सौंदर्य स्पष्ट कीजिए।
- 2 शिल्प सौंदर्य पर प्रकाश डालिए।

प्र.9 निम्नलिखित प्रश्नों में से किन्हीं तीन प्रश्नों के उत्तर दीजिए—

- 1 क्या अक्कमहादेवी को कन्नड़ की मीरा कहा जा सकता है ?
- 2 आपकेविचार में चंपा ने ऐसा क्यों कहा होगा कि मैं तो नहीं पढ़ूँगी ?
- 3 'घर की याद' कविता में पिता के व्यक्तित्व की किन विशेषताओं को उकेरा गया है ?
- 4 विस का प्याला राणा भेज्या, पीवत मीरा हाँसी—इसमें क्या व्यंग्य छिपा है ?

प्र.10 निम्नलिखित गंदाश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए —

अक्सर जब मैं एक जलसे से दूसरे जलसे में जाता होता , और इस तरह चक्कर काटता रहता होता था, तो इन जलसों में मैं अपने सुनने वालों से अपने इस हिंदुस्तान या भारत की चर्चा करता। भारत एक संस्कृत शब्द है और इस जाति के परंपरागत संस्थापक के नाम से निकला हुआ है। मैं शहरों में ऐसा बहुत कम करता, क्योंकि वहाँ के सुनने वाले कुछ ज्यादा सयाने थे और उन्हें दूसरे ही किस्म के गिज़ा की जरूरत थी। लेकिन किसानों से, जिनका नजरिया महदूद था, मैं इस बड़े देश की चर्चा करता, जिसकी आज़ादी के लिए हम लोग कोशिश कर रहे थे और बताता कि किस देश का एक हिस्सा दूसरे से जुदा होते हुए भी हिंदुस्तान एक था। मैं उन मसलों का जिक्र करता, जो उत्तर से लेकर दक्खिन तक और पूरब से लेकर पश्चिम तक, किसानों के लिए यक—साँ थे, और स्वराज्य का भी जिक्र करता, जो थोड़े लोगों के लिए नहीं, बल्कि सभी के फायदे के लिए हो सकता था।

- 1 लेखक कहाँ जाता था ? वह किसकी चर्चा करता था ?
- 2 'भारत' शब्द के बारे में लेखक क्या बताता है ?
- 3 लेखक को किसानों को हिंदुस्तान की एकता बताना क्यों जरूरी लगता था ?

अथवा

सचमुच! यह कुत्ता भूलो जैसा ही दिखता था। वह भूलों से बहुत ही मिलता—जुलता था। उसके शरीर का रंग तो भूलों जैसा बादामी था ही, उसकी दुम का छोर भी भूलों के दुम की छोर जैसा ही सफ़ेद था। आखिर यह फेंका हुआ भात उसने खाया, और हमारे उस दृश्य की शूटिंग पूरी हुई। फ़िल्म देखते समय यह बात किसी के भी ध्यान में नहीं आती कि एक ही सीन में हमने 'भूलो' की भूमिका में दो अलग—अलग कुत्तों से काम लिया है।

- 1 लेखक यह क्यों कहता है कि यह कुत्ता भूलो जैसा दिखता है ?
- 2 भूलो व इस कुत्ते में क्या समानता थी ?
- 3 भूलो की भूमिका में दो अलग—अलग कुत्तों से काम क्यों लेना पड़ा ?

प्र.11 निम्नलिखित प्रश्नों में से किन्हीं तीन प्रश्नों के उत्तर दीजिए—

- 1 मियाँ नसीरुद्दीन तीसरी पीढ़ी के हैं जिसने अपने खानदानी व्यवसाय को अपनाया। वर्तमान समय में प्रायः लोग अपने पारंपरिक व्यवसाय को नहीं अपना रहे हैं। ऐसा क्यों ?
- 2 कृषि—विभाग वालों ने मामले को हॉर्टीकल्चर विभाग को सौंपने के पीछे क्या तर्क दिया ?
- 3 रजनी धारावाहिक की इस कड़ी की मुख्य समस्या क्या है ? क्या होता अगर —
(क) संपादक रजनी का साथ न देता।
- 4 गलता लोहा पाठ के आधार पर बताइए "विरादरी का यही सहारा होता है।"
(क)उपर्युक्त वाक्य किस प्रसंग में कहा गया ?

प्र.12 तुम दूसरी आशापूर्ण देवी बन सकती हो— जेटू का यह कथन रचना संसार के किस सत्य को उद्घाटित करता है ?

अथवा

लता ने करुण रस के गानों के साथ न्याय नहीं किया है, जबकि श्रृंगारपरक गाने वे बड़ी उत्कटता से गाती हैं— इस कथन से आप कहाँ तक सहमत हैं ?

प्र.13 निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर दीजिए —

- 1 चेजारों के साथ गाँव — समाज के व्यवहार में पहले की तुलना में आज क्या फ़र्क आया है ? पाठ के आधार पर बताइए।
- 2 'आलो—आँधारि' पाठ की लेखिका को किराए के घर में अकेली रहते देखकर लोग उसके साथ कैसा व्यवहार करते हैं ? क्या आप इसे उचित मानते हैं ? ऐसी स्थितिमें आप क्या करेंगे ?
- 3 लता के गायन ने जनरुचि को बढ़ाने में क्या योगदान दिया ? आप अपने किस काम से जनरुचि को संवार सकते हैं ?

Promotion Examination-2018
Class XI A, B, C, D
ENGLISH

Time: 3:00Hrs [+15 Mins. Reading Time]

Max.M-80

General Instructions:

- i) The first fifteen minutes are for reading the question paper.
- ii) The question paper has:

Section A	- Reading Skills	-	20 marks
Section B	- Writing Skills and Grammar	-	30 marks
Section C	- Literature and Long Reading Text	-	30 marks
- iii) Read the instructions carefully and do not exceed the word limit.
- iv) Follow the sequence of the question paper.

Section-A [Reading- 20 Marks]

1. Read the following poem carefully and answer the questions that follow :

(12)

A Little Grain of Gold

I had gone a-begging from door to door in the village path when
thy golden chariot appeared in
the distance like a gorgeous dream and I wondered
who was the king of all kings!

My hopes rose high and methought my evil days
were at an end, and I stood waiting for alms to be
given unasked and for wealth scattered on all sides
in the dust

The chariot stopped where I stood. Thy glance
fell on me and thou camest down with a smile. I felt
that the luck of my life had come at last. Then
of a sudden thou didst hold out thy right hand
and say, "What hast thou to give to me?"

Ah, what a kingly jest was it to open thy palm
to a beggar to beg! I was confused and stood
undecided and then from my wallet I slowly
took out the least little grain of corn and gave it to thee.

But how great my surprise when at the day's
end I emptied my bag on the floor to find a least
little grain of gold among the poor heap. I bitterly
wept and wished that I had had the heart to give
thee my all.

----Rabindranath Tagore

- A. Answer the following questions by choosing the most appropriate option:- (1-6) (6)

1. What did the narrator see on the village path when he was begging from door to door?

- (a) The king of the state. (b) A bag full of gold coins.
 (c) A golden chariot. (d) A blind beggar.
2. Who was riding on the golden chariot?
 (a) The king (b) God
 (c) Goddess (d) The narrator himself.
3. What did the narrator have in his wallet?
 (a) Grains of gold. (b) Grains of silver
 (c) Grains of corn. (d) None of these.
4. Why was the narrator filled with deep regret?
 (a) Because he had given nothing to God. (b) Because he had given his all to God.
 (c) Because he had not given his all to God. (d) Because he had asked for nothing from God.
5. Give the antonym of the word 'gorgeous'.
 (a) impressive
 (b) repulsive
 (c) attractive
 (d) beautiful
6. The word 'thy' means
 (a) you (b) your
 (c) yours (d) yourself

B . Answer the following questions briefly: (7- 12)

(6)

7. What was the speaker doing door to door?
 8. Who do you think 'this king of all kings' refer to?
 9. What made the speaker's hopes rise high?
 10. What happened contrary to the speaker's hopes?
 11. What has been called 'a kingly jest'?
 12. What made the speaker weep bitterly?

2. Read the following passage carefully and answer the questions that follow:-

(8)

There are two problems which cause great worry to our educationists---the problem of religious and moral *instruction* in a land of many faiths and the problem *arising out* of a large variety of languages.

Taking up the education of children we see that they should be trained to love one another, to be kind and helpful to all, to be tender to the lower animals and to count and calculate is important, but it should not make us *lose sight* of the *primary* aim of *moulding* personality in the right way.

For this, it is necessary to call into aid, culture, tradition and religion. But in our country we have, in the same school, to look after boys and girls born in different faiths and belongings to families that live diverse ways of life and follow different forms of worship associate with different denominations of religion. It will not do to tread the easy path of evading the difficulty by attending solely to physical culture and intellectual education. We have to evolve a suitable technique and method for serving the spiritual needs of school children professing different faiths. We should thereby promote an atmosphere of mutual respect, a fuller understanding and helpful co-operation among the different communities in our society. Again we must remain one people and we have therefore to give basic training in our schools to speak and understand more languages than one to appreciate and respect the different religions prevailing in India. It is not right for us In India to be dissuaded from this by considerations as to overtaking the young mind. What is necessary must be done. And it is not in fact too great a burden.

Any attempt to do away with or steamroll the differences through governmental coercion and indirect pressure would be as futile as it would be unwise. Any imposition of a single way of life and form of worship on all children or neglect of a section of the pupils in this respect or barren secularisation will lead to conflict between school and home life which is harmful. On the other hand, if we give due recognition to the different prevailing faiths in the educational institutions by organizing suitable facilities for religious teaching for boys and girls of all communities, this may itself serve as a broadening influence of great national values.

Questions:-

- (a) On the basis of your reading of the above passage, make notes on it, using headings and sub-headings. Also use recognisable abbreviations, wherever necessary (minimum 4) Supply an appropriate title to it. (5)
- (b) Write a summary of the above passage in about 80-100 words. (3)

Section-B [Writing+Grammar-30M]

- 3. You want to let out a house. Prepare an advertisement to this effect, for publication in a newspaper, giving location of the building, nature of accommodation, rent expected etc in about 50 words. (4)

OR

A Blood Donation Camp is going to take place in the Aradhana Colony. As the Secretary of the RWA of the colony draft a notice asking and encouraging the residents to take part in the cause. Invent the necessary details in not more than 50 words.

- 4. You are a resident of Mahalakshmi Apartments, Paharganj, Delhi. Your residential area is flooded with roadside dwellers who are deprived of the basic civic amenities like light public toilets and bathrooms. Write a letter to the Editor of the Hindustan Times, highlighting the problems of these roadside dwellers and also the problems posed by them to the public. Give suggestions for improvement in about 120-150 words. (6)

OR

You are Anil Gupta. Write an application for the post of TGT (Mathematics) in a reputed public school with a complete Bio-Data.

- 5. Your school recognises the athletic excellence of the students by giving them certificates and medals on the Annual Athletic Meet. Parents are also invited. The highlight of the day is the announcement of the winning house. Write a report in about 150-200 words for the publication in your annual school magazine describing the Annual Athletic Meet. (10)

OR

You have observed that health clubs and beauty parlours are mushrooming everywhere. Write an article in not more than 200 words on the growing awareness of health and beauty.

- 6. The following passage has not been edited. There is an error in each line. Write the incorrect word and the correction in your answer sheet as given below, against the correct blank number. (1x4=4)

Incorrect	Correct
-----------	---------

One morning I finished one business at the bank

<u>one</u>	<u>some</u>
------------	-------------

- (a) and was returning in pick up my motorbike which I had left
- (b) in the parking lot outside. Suddenly he realised that I had

_____	_____
_____	_____

- (c) lost the bike key. Upset, I searched about it in the bank.
(d) A bank employee tried to help me find it and in vain

7. Rearrange the following words/ phrases into meaningful sentences:

(2)

1. he is/ party/ explain why/ to / didn't/ going/go to/ they / the
2. was proud/his strength / despised the / who / tenants / the landlord / weakness of his / of

8. Read the conversation given below and complete the following passage by filling in the blank places appropriately. Do not add any new information.

(4)

Raghav: Hi Ravi, Varun and I are going to watch the cricket match tomorrow. Would you like to join us?

Ravi: I would love to but I have to take my father's permission first.

Raghav: You must let me know by this evening because I have to arrange for the passes.

Ravi: I will do so.

Raghav informed Ravi that Varun and he were going to watch the cricket match the next day. He asked Ravi

(a) _____ Ravi replied (b) _____ permission first. Raghav told him (c) _____ for the passes. Ravi said (d) _____

Section-C [Literature and Long Reading Text30M]

9. Read the extract carefully and answer the following questions:

(3)

"This is a tricky thing

I need some council. Bring to me

This wisest man in this country."

The wisest man was found and brought.

Nay, carried, to the Royal Court.

(a) Name the poem and its poet.

(b) What kind of man is considered as the wisest in this country?

(c) Who is 'I' referred to here?

10. Answer any three of the following questions:- 30-40 words

(3x3=9)

1. Why did Taplow had to stay back at school on the last day?

2. Do you find a change in Ranga's thinking after he met Ratna?

3. In the poem 'Father to son' what does the father long for?

4. What was the first familiar thing that the narrator saw at Mrs. Dorling's house during the second visit?

11. Answer any one of the questions in above 150 words.

(6)

After changing her personality, how does Mrs. Pearson set Doris and Cyril right?

OR

Justify the title 'The Birth'.

Long Reading Text Novel

(12)

12. Though 'The Canterville Ghost' is a humorous story, it contains a message. What is this message?(150 words)

13. Analyse the character of Duke of Cheshire in the context of his reaction on Virginia's disappearance.150words

ANNUAL PROMOTION EXAMINATION – 2018

CHEMISTRY

CLASS – XI (A + B)

Time : 3 hours + 15 min.

Max Marks : 70

General instructions :

1. All questions are compulsory; only internal choice is given in some questions.
2. Questions 1- 5 carry 1 mark each; answer in 1 sentence.
3. Questions 6- 10 carry 2 marks each; answer in 2 sentences.
4. Questions 11- 22 carry 3 marks each; answer in about 30 words.
5. No. 23 carries 4 marks.
6. No. 24 -26 carry 5 marks each; answer elaborately.
7. Use Log tables; calculators are not allowed.

Q1. Find the number of moles of hydrogen gas required to use up 70g of nitrogen during the preparation of ammonia.

Q 2. What is smog, which gas is present in classical smog?

Q3. What weight of NaOH will be present in it's 100 mL of 1/20 solution?

Q4. Find the mass of HCl needed to react with 87g MnO_2 (Atomic mass of Mn = 55; Cl = 35.5) according to the equation :

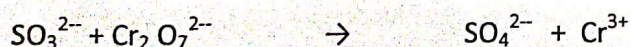


Q5. Give an equation for a displacement reaction with the oxidation states and show redox reaction in terms of electrons.

Q6. Calculate the total pressure exerted if 2.8 g of N_2 and 6.4 g of CH_4 are mixed in a 10 L flask.

Q7. Calculate the weight of CO that will have the same number of oxygen atoms as in 66 g of CO_2 .

Q8. Balance the given ionic equation carried out in acidic medium:



Q9. Taking the example of the third period explain the trend in the 1st ionization enthalpy on moving across a period, 1st is lower than Mg but the 2nd I.E. of Na is higher, why? .

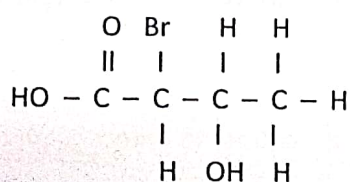
Q10. Where in the periodic table will you find more negative electron gain enthalpy values, which type of bonds will they form with elements of second group?

Q11. a) Taking the configuration of oxygen show how the quantum numbers obey Pauli's exclusion principle and Hund's rule of maximum multiplicity.

b) Calculate the wavelength and frequency of the transition when an electron in a H atom shifts from 4th to 2nd orbit. (Rydberg's const = 109714 cm^{-1} ; $c = 3 \times 10^8 \text{ m s}^{-1}$).

- Q12. a) The uncertainty in position and velocity are 10^{-10} m and 5.27×10^{-24} m s⁻¹ respectively. Calculate the mass of the particle ($h = 6.625 \times 10^{-34}$ JS.)
- b) Give two shortcomings of Bohr's atomic model .
OR
Explain how K.E. of the emitted electrons can be determined in Photoelectric effect.
- Q13. a) Explain which one of AlCl₃, NaCl, & BeCl₂ is covalent or ionic and give the steps for the formation of one mole of ionic chloride from its constituents in their most stable state.
- b) Show the resonating structures of benzene and its effects
- Q14. a) Using molecular orbital theory, explain the paramagnetic nature of O₂
- b) Explain the type of hybridization and shape of any two of the following :
N in NH₃
Be in BeCl₂
C in C₂H₄
B in BCl₃
- Q15. a) Why is H₂ evolved at the anode with NaH but not with the hydrides of group 14 or 15; compare.
- b) Give the preparation of hydrogen gas or one method of preparation of H₂O₂.
- Q16. a) Which one is more basic in nature MgO or Na₂O.
- b) Compare either Li or Be with the lower members of its group.
- Q17. a) Give the preparation and two uses of NaOH or sodium bicarbonate .
- b) Compare the reducing nature of elements and basic character of oxides of group 1 & 2 elements with examples.
- Q18. a) Give the oxidation states of group 14 elements and specially of tin & lead.
- b) Give the structure and properties of i) SiO₂ & CO₂ ii) Al₂ Cl₆ & Diborane
- Q19. a) Give the structures of : i) 3-chloro 4- amino pentanoic acid
ii) 3-phenyl but 2- enal
- b) One example of a polar mechanism.

c) Give the IUPAC name :



Q20. Explain any two :

- Two types of structural isomerism .
- With example explain Cis/Trans isomerism shown by some alkenes.
- Explain why Benzene gives electrophillic substitution reactions at 2,4,6,when substituted by -OH group.

Q21. Answer any two :

- With example explain hetrolytic bond fission/Lewis acids.
- In which case are steam distillation or fractional distillation used?
- Give some methods used in green chemistry.

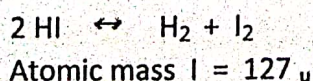
- Q22. a) Give the relation between K_p and K_c .
- b) What are the guidelines given by VSEPR theory, explain.

OR

Show formal charge on centre atom of ozone.

- Q23. a) The molar heat of formation of CCl_4 , H_2O , CO_2 and HCl are -25.5, -57.8, -94.1 and -22.1 k Cal mol^{-1} respectively. Calculate ΔH for : $\text{CCl}_4 + 2\text{H}_2\text{O} \rightarrow \text{CO}_2 + 4 \text{HCl}$.
- b) (i) Describe an electrochemical cell using the two metals copper & zinc dipping in their respective salt solutions.
- (ii) Explain why dry cells should not be thrown in rivers.

- Q24. a) A mixture contained 30.92g H_2 , 2.794g I_2 and 1308.16g HI at equilibrium in one litre container; Calculate the K_c for thermal decomposition of HI



OR

- Calculate enthalpy change for the reaction : $\text{C} + 2\text{H}_2 (\text{g}) \rightarrow \text{CH}_4 (\text{g})$ if enthalpy changes for combustion of C is -393.7 kJ ; of H_2 is -285.7kJ; of methane is -890.3kJ
- With an example explain a buffer solution or Le Chatelier's principle.

- Q25. a) Give the value of K_p for the equation showing preparation of ammonia if its value for K_c is 0.50 at 400°C ($R=0.082\text{ atm/deg mole}$) OR Give the structures and sigma and pi bonds in:
- 3-amino propanoic acid; and
 - Propyne
- b) Explain the method of preparation of Lassaigne's extract to detect sulphur in an organic compound.
- c) Give the structure of: 2,2 dichloroethanol and bond line formula of: 2,3dimethylbutanal.

OR

With the given example explain inductive effect in bromo-propane .

Q26. Any two each of a, b & c :

- Give the equation for preparation of :
 - Ethene from Chloroethane
 - Butane by Wurtz reaction
 - Benzene by decarboxylation
- Give the equation for :
 - Addition of HBr on propene with the rule obeyed.
 - Ozonolysis of propene .
 - Preparation of benzene from phenol.
- Directive influence of $-\text{COOH}$ group in phenol.
 - Reaction of ethyne to show its acidic nature.
 - Friedel-Craft' s alkylation reaction

FINAL EXAMINATION 2018

SUBJECT-BIOLOGY

CLASS-11TH

Time-3hrs [+ 15 min. reading time]

M.M-70

General Instructions

1. All question are compulsory.
2. There is no choice in the question paper.
3. Draw neat and labelled diagram wherever necessary.

SECTION A

(1 Mark each)

1. How does growth in plants differ from that of animals.
(any 2 differences)?
2. Which group of the kingdom Protista constitute the phytoplankton of the oceans?
3. What is triple fusion?
4. Name the four pigments present in green plants.
5. Name the oxygen storing proteins found in some muscles.

SECTION B

(2 Mark each)

6. Draw a longitudinal section of the kidney and label the following parts:
a- Medullary pyramid b- minor calyx
c- Renal pelvis d- cortex
7. What is apical dominance? Which hormone controls it?
8. Name the kind of epithelium found in the air sacs of lungs. What is the advantage of its presence there?
9. Give anatomical differences between a dicot stem and a monocot stem.
10. Write an appropriate technical term for the following: -
a- blood filled cavity in arthropods.
b- free floating form of cnidaria
c- stinging organs of jelly fishes.
d- Lateral appendages in aquatic annelids.

SECTION C

(3 Mark each)

11. Draw labelled diagrams of the structure of both-dicotyledonous seed and monocotyledonous seed.
12. Draw a labelled diagram to show the duct systems of liver, gall bladder and pancreas.
13. Explain the events occurring during the interphase of the cell cycle.
14. Describe the impulse conducting system of the human heart.
15. Write the deficiency symptoms of the following
 - 1- Chlorosis
 - 2- Necrosis
 - 3- Stunted plant growth
16. What happens if there is a fall in the GFR? How does it correct itself?
17.
 - a- Give a comparison between cyclic and non-cyclic photophosphorylation.
 - b- How can you tell whether a plant is C₃ or C₄?
18.
 - a- Name the first vertebra of the vertebral column.
 - b- Name the rounded protuberances of the cranium that articulate with the first vertebra
 - c- What are floating ribs?
19. What is the significance of step wise release of energy in respiration?
20. What are neurotransmitters? What is their role in transmission of nerve impulses? Name two neurotransmitters.
21. Name any three phytohormones and write one use of each.
22. Name the mineralocorticoid secreted by the adrenal cortex. Mention its functions.

SECTION D

(4 Mark each)

23. Rahul, who works in a stove grinding industry, had some respiratory problem. Based on your knowledge of the human respiratory system, answer the following:
 - i-With what ailment must he be suffering from?
 - ii-How does this ailment affect Rahul's lungs?
 - iii- Suggest a protective measure to such workers to prevent such ailments.

SECTION E

(5 Mark each)

24. Give examples of:
- a- Hyperglycaemic hormone
 - b- Hypercalcaemic hormone
 - c- Gonadotropic hormone
 - d- Blood pressure lowering hormone
- b- What is the function of the hypothalamic hormone? Mention their two categories.
- c- Name the source glands of prolactin and oxytocin.

OR

- a- Name the enzymes present in the pancreatic juice.
- b- Explain how are fats present in food digested in the alimentary canal?
- 25- a. Give a properly labelled diagrammatic (only) representation of the Hatch – Slack pathway.
- b. What is meant by photolysis of water?
- c. How many turns of the Calvin cycle are required to produce one molecule of glucose.

OR

- a. In which two steps of glycolysis, is ATP utilized?
- b. Give the schematic representation of an overall view of the Kerb's cycle.
26. a. Describe the following.
- I. Synapsis
 - II. Bivalent
 - III. Leptotene
- b. Explain the process of cytokinesis in the animal cell.

OR

- a. Why are the two strands of DNA described as antiparallel?
- b. How do the two strands in DNA join with each other?
- c. Name the four nucleosides found in RNA.
- d. What are essential amino acids?
- e. Name the polysaccharides which are stored as reserve food in plants and animals respectively.

Note

Write your roll no. on the Q.Pap.

All questions are compulsory.

The questions are to be answered in the same sequence.

Marks will be deducted for poor presentation/logic.

Go through the question paper carefully and get your doubts cleared when enquired.

Leave OR draw a line after each answer.

Q.1:-Write one difference for each of the following (in column format) [5]

- local and global variable.
- void fun() and int fun() .
- void num(int) and void num(int&) .
- itoa() and atoi() .
- strlen() and sizeof() .

Q.2:-Fill in the blanks:-(*copy each statement*) [5]

- if int n[]={213,754,514} then sizeof(n) =
- :: represents
- A variable declared outside main() is called
- The ASCII code of 'A' is
- The numerical difference between 'a' and 'A' is

Q.3:-State whether the following statements are TRUE or FALSE:- [5]

- Two functions with the same name can be declared in a single program.
- The largest number which random(100) can give is 99.
- The scope resolution operator can also be used with local variables.
- A header file can be included as many times in a single program.
- A function can be declared in a structure.

Q.4:-Write a CPP equivalent statement for each of the following:- [5]

(Make use of the variables given in each statements in bold and italics in your answer)

The first statement labelled 0. has been solved for you as an aid to your understanding and is not to be included by you.

0. To find the length (*x*) of a sting stored in *st* .

Ans. x = strlen(st);

- To declare an array *month* to store the name of the months in a year.
- To declare a function *fun* which does not return a value but accepts an array of integers.
- To declare a structure *car* to hold its name [*nm*], cost [*cst*], colour [*c*].
- To convert an integer stored in *n* to string form in variable *s*.
- To copy a string from *str1* into *str2*.

Q.5:-Answer the following:-

[15]

- What do we mean by overloading a function. Write two precautions while using this concept.
- What type of values are returned by the function strcmp() while comparing strings, what is the significance of the values returned.
- How is call by value method difference from call by reference.
- Write two precautions which must be taken while using arrays in a program.
- Write two advantages of using functions in a program.

Q.6:-Study the following programs and answer write the output in each case.

Non-inclusion of header files may not be treated as error. In case you find something wrong in any program,

explain the error briefly. Do not copy any part of both the programs given below

PROGRAM 6 (a)

```
void main()
{
clrscr();
int arr1[3][3]={60,10,20,50,70,90,80,30,40};
int arr2[3][3],i,j;
for(i=0;i<=2;i++)
{
for(j=0;j<=2;j++)
{
arr2[j][i]=arr1[i][j];
}
}
cout<<arr1[2][0]-arr2[2][0];
}
```

PROGRAM 6 (b)

```
int add( int, int ),i;
void main()
{
clrscr();
int a=4, b=6;
int x,y;
for(i=1;i<=3;i++)
{
a=add(a,b);
b=add(b,a);
}
cout<<a<<"\t"<<b<<"\n\n\n";
}
int add(int m, int n)
{
return m+n;
}
```

[5 mks each]

PROGRAM 6 (c)

```
void main()
{
clrscr();
int i,x,y;
void fun( int &, int &);
cout<<"Enter first number?";
cin>>x;
cout<<"Enter second number?";
cin>>y;
for(i=1;i<=5;i++)
fun(x,y);
cout<<"First number is "<<x;
cout<<"\nSecond number is "<<y;
}
```

PROGRAM 6 (d)

```
void fun( int &a , int &b)
{
a=a+b;
b=a-b;
a=a-b;
}
```

Q. What will be the output if the user enter if the user enters -5 and 5 in response.

PROGRAMMING SECTION (10 marks each)

Variables highlighted in the questions should be used by you in your programs. Additional variables may be taken as per choice.

Q.7 Consider the array given below. W.A.P. to create an array [**num**] to accommodate the same data given in the table below.

Now make your program add all negative integers found on both the diagonals.

3	-4	7	6	-2
1	-8	-9	2	-5
4	5	-4	2	2
5	-3	3	1	6
6	3	-7	8	-3

The output should be the original array followed by the sum as shown below.

$$(-8) + (-4) + (-3) + (-2) + (-4) + (-3) = -24$$

Hint:- This program adds all negative numbers found on both the diagonals.

Q.8 Create a structure [**cust**] with the following fields.

Name [**nam**] \ \ Name of the account holder

Amount [**amt**] \ \ Amount in rupees

Code [**cd**] \ \ Debited [**D**] or Credited [**C**]

Now create an array of the above declared structure to hold the data for 10 account holders and assign suitable data in the program itself.)

Original Structure		
Name	Amount	Code
AAA	1000	D
BBB	2000	D
CCC	3000	C
DDD	4000	D
GGG	5000	C

Now through a local function [**fun()**] display the details of debtors or creditors on choice along with the total amount [**t**] debited or credited as shown. A sample output for debtors follows.

Debtors and amount	
Name	Amount
AAA	1000
BBB	2000
DDD	4000
Total	7000

ALWAYS DRY-RUN YOUR PROGRAMS. ALL THE BEST

ANNUAL PROMOTION EXAMINATION - 2018

CLASS - XI

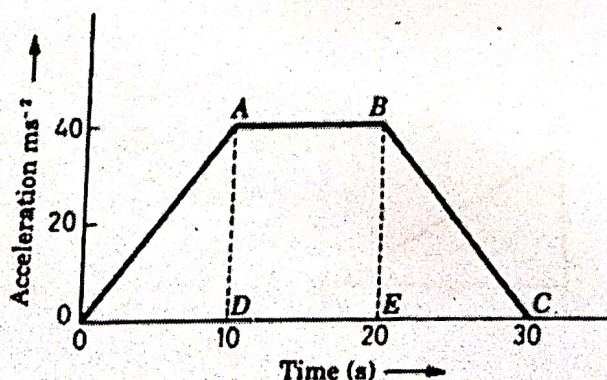
PHYSICS

Time : 3hrs (+ 15min reading time)

MM : 70

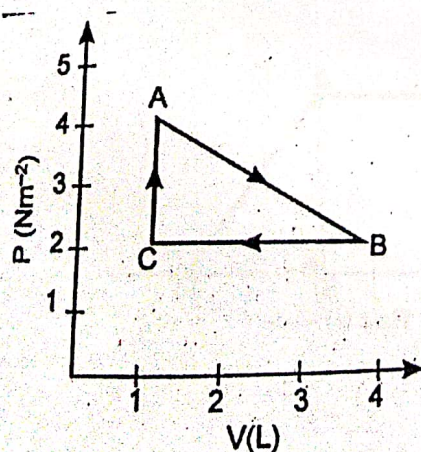
Q. No. 1 to 5	1 mark each
Q. No. 6 to 10	2 marks each
Q. No. 11 to 22	3 marks each
Q. No. 23	4 marks each
Q No. 24 to 26	5 marks each

1. What is projection of $i + j$ on $i - j$
2. Two bodies of masses 1 kg & 2kg are located at (1,2) & (1,3) respectively Calculate the co-ordinate of the centre.
3. What do mean by degree of freedom ? Find degree of freedom of triatomic gas.
4. Why C_p is greater than C_v
5. A wave is represented by $y = 3\sin(36t + 0.018x + \pi/4)$. Deducue (i) Time period (ii) Wavelength
6. The acceleration due to gravity at a place is 10ms^{-2} find the value in $\text{cm}/\text{min}^{-2}$
7. Water enters a horizontal pipe of non uniform cross-section with a velocity of $0.6\text{m}/\text{s}$ & leaves the other end with a velocity of $0.4\text{m}/\text{s}$.At the first end- pressure of water is $1200\text{N}/\text{m}^2$ Calculate the pressure of water at the other end. Density of water is $1000\text{kg}/\text{m}^3$.
8. Figure shows the acceleration -time graph for a particle in rectilinear motion. Find the average acceleration in first 20 sec



9. State Bernoulli's theorem Explain how Bunsen Burner works on its Principle.
10.
 - a. Why a cricket player lowers his hands while catching a cricket ball?
 - b. Why an athlete runs some steps before taking a jump?
 - c. Why does mango fall down when the branch of the tree is shaken ?
11. Determine a unit vector which is perpendicular to both $A = 2i + j + k$ & $B = i + j + k$

12. A boy is running westward with a speed of 3km/h Rain appears to fall vertically downward with a speed of 4km/h .Find the actual speed of the rain .In what direction, the boy should hold an umbrella to protect himself from the rain
13. Deduce expression for (a) time of flight (b) horizontal range (c) maximum height reached by a projectile in terms of its initial velocity & angle of projection .
14. An elevator weighs 4000kg .When the upward tension in the supporting cable is 48000 N what is the upward acceleration. Starting from rest how far does it rise in 3 sec .
15. State Kepler's law of Planetary Motion .Establish 3rd law mathematically
16. What is Simple pendulum ? show that the motion of a pendulum is SHM & hence deduce an expression for the time period of the pendulum.
17. Derive an expression for work done in an Adiabatic process.
- OR**
- Using first law of thermodynamics derive a relation between C_p & C_v
18. A body whose moment of inertia is 3kgm^2 ,is at rest .It is rotated for 20sec with a moment of force 6Nm . Find the angular displacement of the body .Also calculate the work done.
19. Define the term orbital speed . Establish a relation for orbital velocity of a satellite orbiting very close to the surface of the earth. Find the ratio of this orbital speed & Escape velocity.
20. Derive an expression for excess pressure inside a soap bubble.
21. Starting from $P = \frac{1}{3} nmc^2$ explain (i) Charles law (ii) Avogadro's Hypothesis
22. The P-V diagram for a cyclic process is a triangle ABC drawn in order .The co-ordinates are in order .The co-ordinates of A B C are $(4,1)$, $(2,4)$ & $(2,1)$ Calculate the work done in the process from A to B , B to C & C to A Also calculate the work done in complete cycle.



23. Shikhar invited his friends for a party at his house & jumping on a sofa They started the competition of high jump on the sofa . Shikhar's father warned them that the springs of sofa could be broken and they could get hurt and explained them the working of spring .Children promised that they would never jump on the furniture .

- (i) what values of the boys do you appreciate ?
- (ii) A spring compressed by 0.1m develops a restoring force of 10N .A body of mass 4kg is placed on it .Deduce (a) the force constant of the spring (b) depression of the spring under the weight of the body. (Given $g = 10\text{m/s}^2$)
- (iii) Give two examples of objects which work using springs.
24. (i) An observer moves with a constant velocity away from a stationary sound source .Derive the formula for the apparent frequency heard by the observer
- (ii) Two engines pass each other in opposite directions with a velocity of train 60km/hr each. One of them is emitting a note of 540. Calculate the frequencies heard in the other engine before & after they passed each other Given velocity of sound = 316.67m/s
25. Draw P - V diagram of Carnot's cycle Write down the expression for the work done in each process. Derive an expression for efficiency of the cycle.
26. (i) Derive of a expression for terminal velocity spherical body falling from the rest through a viscous liquid.
- (ii) Two identical drops of water are falling through air with steady velocity of 10m/s. If the drops combine to form a single drop, what would be the terminal velocity of the single drop.
- OR**
- (i) What is the phenomenon of capillarity ?
- (ii) Derive an expression for liquid in capillary tube ?
- (iii) What would be the radius of capillary tube so that water will rise to a height of 8 cm in it ?
Surface tension of water $70 \times 10^{-3} \text{ N/m}$.

Annual Promotion Examination – 2018

Class – XI

Subject – Physical Education

Time : 3:00 Hours (+15 Min. Reading Time)

MM :

General Instructions:

All questions are compulsory

Answer to question carrying 1 mark should be approximately 20-30 words each

Answer to question carrying 3 mark should be approximately 80-90 words each

Answer to question carrying 5 mark should be approximately 150-200 words each

Very short answer type questions.

(1X11=11) Ma

1. Define Physical education?
2. Write down the oath taken by participants in the modern Olympics
3. What do you mean by flexibility?
4. Define adaptive physical education.
5. What do you mean by yoga?
6. Write an objective of adventure sports.
7. What is BMI and how it is measured.
8. What do you mean by muscles?
9. Define centre of gravity.
10. What is meant by adolescence.
11. Define the term skill?

Short answers type questions.

(3X8=24) Ma

1. Explain the components of wellness.
2. What is the vision of special Olympic bharat?
3. Why is Yoga important in modern life?
4. Write briefly on the importance of test, measurement and evaluation in sports.
5. How does anatomy differ from physiology?
6. What are the different types of levers?
7. Differentiate growth and development.
8. Explain in brief about blood doping?

Long answer type questions

(5X7=35) M

1. What are the components of a positive life style? Discuss.
2. Briefly explain the roles and qualities of a leader.
3. Write an essay on the three somatotypes described by W H Sheldon?
4. Write on the properties and function of muscles?
5. Discuss in detail the importance of biomechanics in sports.
6. Discuss the importance of warming up in sports?
7. What are different performance enhancing drugs? Write in detail