

SUMMATIVE ASSESSMENT-I (2019-20)

CLASS-11th

SUBJECT- HINDI

MARKS = 80

TIME- 3Hrs

प्रश्न-1. अपरिचित गद्यांश को ध्यानपूर्वक पढ़कर प्रश्नों के उत्तर दीजिए।

लोकतंत्र के तीनों पाथों - विधायिका, न्यायपालिका और न्यायपालिका का अपन अपना महत्व है, किन्तु जब प्रथम दो अपने मार्ग या उद्देश्य के प्रति शिथिल होती हैं या संविधान के दिशा निर्देशों की अवहेलना होती है, तो न्यायपालिका का विशेष महत्व ही जाता है। न्यायपालिका ही है जो हमें आइना दिखाती है, किन्तु आइना सही उपयोगी होता है जब उसमें दिखाई देने वाली चट्टने की विद्रुपता को सुधारने का प्रयास हो। सर्वोच्च न्यायलय के अनेक जनहितकारी निर्णयों को कुछ लोगों ने न्यायपालिका अति सक्रियता माना, पर जनता को लगा की न्यायलय सही है। राजनैतिक चरम से देखने पर अम की स्थिति हो सकती है। प्रश्न यह है की जब संविधान की सत्ता सर्वोपरि है, तो उसके अनुपालन में शिथिलता क्यों होती है? राजनीतिक दलगत स्वार्थ या निजी हित आठे जा जाता है और यही अष्टाचार की जन्म देता है। हमें इसमें सात है और जनकल्याण की ओर कदम उठाते हैं, आत्मकल्याण के ऐसे तत्वों से देश को, समाज को सदा खतरा रहेगा। अतः जब कभी कोई न्यायलय ऐसे फैसले देता है जो समाज कल्याण के हो और राजनीतिक ठेकेदारों की उनकी अंकित बताते हो, तो जनता को उसमें आशा की किरण दिखाई देती है। अन्यथा तो वह अंधकार में जीने की विवश है ही।

प्रश्न 2. लोकतंत्र में न्याय पालिका का विशेष महत्वपूर्ण हो जाती है और क्यों? (2)
आइना दिखाने का तात्पर्य है और न्यायपालिका कैसे आइना दिखाती है? (2)

II चट्टने की विद्रुपता से क्या तात्पर्य है और यह संकेत किनके प्रति दिया गया है? (2)

III अष्टाचार का जन्म कब और कैसे होता है? (2)

IV आशय स्पष्ट कीजिए - अन्यथा तो वह अंधकार में जीने की विवश है ही। (2)

(V) उपसर्ग और प्रत्यय अलग कीजिए - विद्रुपता विद्रुपता (1)

(VI) गद्यांश का उपयुक्त शीर्षक दीजिए। (1)

प्रश्न-2 अपरिचित गद्यांश को ध्यानपूर्वक पढ़कर प्रश्नों के उत्तर दीजिए।

तरुणाई है नाम सिन्धु की उठती लहरों के गहरों का, चट्टानों से टक्कर लेना लक्ष्य बने जिनके जीवन का सिफल प्रयासों से भी दूना वेग झुंजाओं में भर जाता जोड़ा करता जिनकी गति से नव उल्हास निरंतर नशा। पर्वत के विशाल शिखरों-सा यौवन उसका ही है अक्षय, जिनके चरणों पर सागर के होते अनगिन प्जार साथ लय। अचल सड़ रहते तो ऊंचा, शीश उठाए तूफानों में, सहनशीलता दृकता

हंसती जिनके यौवन के प्रगी में। वही पंच वाधा की तीउ बहते हैं, जैसे दो निररि प्रगति नाम की सार्थक करता यौवन दुर्गमता पर चलकर।

प्रश्न ३- कवि ने किसका आह्वान किया है और क्यों? (2)

तर्कणादी की किन विशेषताओं का उल्लेख किया गया है? (2)

II चट्टानी से टक्कर लेने का तात्पर्य है? (2)

III आशयस्पष्ट कीमिह- जिनके चरणों पर सागर के दीर्घ अनगिन प्त्वार सम्प्लया (2)

IV प्रश्न-3- 'वृद्धारोपण की आवश्यकता' विषय पर एक आलेख लिखिए [5]

प्रश्न-4- 'दहेज प्रथा एक सामाजिक समस्या' इस विषय को आधार बनाकर एक अच्छे लेख लिखिए। [5]

प्रश्न 5- (i) स्तम्भ लेखन क्या होता है? समझाइए। [2½]

(ii) पत्रकारिता की भाषा में मुखड़ा किसे कहते हैं? [2½]

(iii) स्टिंग ऑपरेशन से क्या समझते हैं? [2½]

(iv) पत्रकारिता में 'बीट' किसे कहते हैं? [2½]

प्रश्न 6- कच्चे प्रत्याशा में होंगे, नीड़ों से झोंक रहे होंगे, यह ध्यान परों में चिड़ियों के भरता कितनी चंचलता है! दिन जल्दी-जल्दी ढलता है!

(i) काव्यांश में ममता की शक्ति किस प्रकार उजागर हुई है? [3]

(ii) चिड़िया के घोंसले में किस दृश्य की कल्पना की गई है? [3]

(iii) चिड़िया के परों में आई चंचलता का क्या कारण है? [3]

प्रश्न-7- कविता एक खेल है कवियों के बलने बहार-भीतर यह घर, वह घर सब घर एक के कर देम के माने कच्चा ली जाने।

(i) कवियों के बलने कविता को एक खेल क्यों माना गया है? [3]

प्रश्न-8 'भाषा को सुबलियत' से बरतने का क्या अभिप्राय है?

प्रश्न-9 'मैं और, और जग और, कहीं का नाता' पंक्ति में और शब्द की विशेषता बताइए। [3]

प्रश्न-10 'उड़ने और खिलने' का कविता से क्या संबंध बनता है? [3]

प्रश्न-11- 'अभितन अच्छी है यह कहना कठिन होगा, क्योंकि उसमें दुर्गुणों का अभाव नहीं है।' अखिका ने ऐसा क्यों कहा होगा? [3]

प्रश्न-12 वाजारूपन से क्या तात्पर्य है? किस प्रकार के व्यक्त वास्तव को सार्थकता प्रदान करते हैं अथवा वाजार की सार्थकता किसे हैं? [3]

प्रश्न-13 जीजी ने इंद्र सेना पर पानी फेंके जाने को किस तरह सही बहराया? [3]

प्रश्न-14 - महाभारी फैलने के बाद गांव में सूर्योदय और सूर्यास्त के दृश्य में क्या अंतर होता था ? [3]

प्रश्न-15 - जीवन की जद्दोजहद ने चार्ली के व्यक्तित्व को कैसे सम्पन्न बनाया [5]

प्रश्न-16 - नमक ले जाने के बारे में सफिया के मन में उठे द्वंद्वों के आधार पर उसकी चारित्रिक विशेषताओं को स्पष्ट कीजिए ॥6॥

Summative Assessment - I - 2019-20
 Subject - Biology, class - XI. Timing - 3 Hrs.

XI-cbse

- MCQ
- ① The most abundant substance in cell wall is -
 (A) Protein (B) fat (C) Carbohydrates
 (d) Nucleic Acid.
 - ② The organelle which is not found in the plant cells -
 (A) Plastid (B) microtubules
 (C) spherosomes (d) Centrosome.
 - ③ Chromatids are found during which stage of cell division -
 (a) Interphase (b) Prophase (c) metaphase
 (d) Telophase.
 - ④ In which phase of cell cycle, DNA synthesis occurs -
 (a) G₁ (2) S (3) G₂ (4) M
 - ⑤ Phyllode is modification of -
 (a) Petiole (b) Leaf base (c) Leaf apex
 (d) Stem.

Mark-1

- ① Reticulate Venation is found in which plants ?
- ② What are the function of Root Cap ?
- ③ Name the Components of Golgibody ?
- ④ What is Synapsis and chiasma ?
- ⑤ What is plasmodesmata ?
- ⑥ Give names of organelles not bounded by membrane.
- ⑦ Respiration site in prokaryotes is ?
- ⑧ Why do you mean by endospermic seeds ?
- ⑨ What do you mean by perianth ?
- ⑩ Differentiate between Alternate and Opposite phyllotaxy ?

Mark-2

- ① Differentiate between Runner and stolon with example.
- ② Differentiate between Tap Root and Adventitious Roots.
- ③ Explain Marginal placentation with Labeled diagram.
- ④ Give functions of cell membrane.
- ⑤ Write the names of various types of plastid with specific one function each.

Mark-3

- ① What is the chromosome? explain the structure of chromosome.
- ② Write the names of subphase of prophase I. Explain any two sub phase.
- ③ Write the chemical Composition of DNA.
- ④ Explain Prop and Stilt Root with example.
- ⑤ Differentiate between phylloclade and cladode?
- ⑥ Write the floral formula of a Actinomorphic bisexual, Hypogynous flower with five united Sepals, five free petals, five free stamens and two united Carpel with Superior ovary and axil placentation. Draw the Flower diagram of Pea family.

Long question

- ① Explain the structure of Nucleus and Centrosome.

OR

Explain the process of mitosis division. (4)

- ② Explain the structure of chloroplast and Golgibody.

OR

Describe the floral character of Solanaceae with floral formula and Diagram. (3)

SUMMATIVE ASSESSMENT – I (2019-20)

CLASS- 11th

SUBJECT- ENGLISH

MM: 80

TIME: 3 Hours

A. Choose the correct answer each of the questions given below with the help of options that follow:-

1 × 5

- (1) The rag pickers of seemapuri live in_____
(a) mud houses (b) on the road (c) on tree (d) none of these
- (2) Most bangle makers lose their eye-sight before becoming____
(a) old (b) adults (c) smaller (d) illness
- (3) Rajkumar shukla was a _____
(a) poor peasant (b) landlord (c) teacher (d) none of them
- (4) I declared that the british could not order me about in my own country.
what does "I" refer here?
(a) Rajendra Prasad (b) Mr. Malkani (c) Gandhiji (d) Hari Prasad
- (5) Who killed the hundredth tiger :
(a) King (b) soldier (c) a hunter (d) Devan

B. Answer the following questions in about 20-30 words-

2 × 10

- (1) Why did Saheb's family settle at Seemapuri ? (Lost spring)
- (2) Why does Anees Jung's promise to open school hollow ? (Lost spring)
- (3) What was Franz apprehensive of? (Last lesson)
- (4) Why was there a large crowd in front of the bulletin - board? (Last lesson)
- (5) Why was the Y.M.C.A pool safe? (Deep-water)
- (6) How did the author start learning swimming? (Deep-water)
- (7) Who supported the old crofter when he was unable to do day labour? (Rattrap)
- (8) What did the forest remind the peddler of? (Rattrap)
- (9) How did indigo share cropping disappear?
- (10) How did the peasants learn courage? (Indigo)

C: Answer the following questions in about 120 to 150 words.

4 × 4

- (1) Give a character sketch of Mr. Hamel?
- (2) how did the order from Barlin change the situation in the school ?
- (3) "The battle of Champaran is won" Explain the statement.
- (4) What was make-up department of the Gemini studios and how was hierarchy maintained there?

(D) Read the following extract give the answers:-

1 × 3

And yet, for these
children, these windows, not this map,
their world, where all their future's painted with fog
A narrow street sealed in with a lead sky
Far far from rivers, capes and stars of words

- a. What does 'children, these windows, not this map' mean?
- b. What kind of places do the children live?
- c. Find out the word from extract which means 'Mist'.

E. Writing Works

1. The following paragraph has not been edited. There is an error in each line. Write the error along with its correction in the space provided.

5

(error) (correction)

- | | | | |
|--|----------|------------|--|
| Sachin Tendulkar is a best | a | the | |
| a. Cricketer in India. He has play for | _____ | _____ | |
| b. More than 20 years on the country. | _____ | _____ | |
| c. He retired from the games | _____ | _____ | |
| d. Last year, he is know for | _____ | _____ | |
| e. His skill in batting or fielding | _____ | _____ | |
2. Re-arrange any four of the following words/phrases to make meaningful sentences. 5
- (1) the / habital / regrowth / rate of / is / very slow / of
- (2) that life began / centuries ago / scientists think / twenty million / on earth / about.
- (3) are / their / animals / product of / all the / environment
- (4) endless process / the plants and animals / of evolution / are the products / of an
- (5) will / help you / who / in / your difficulty /
3. You are Mohan / Meenu, a student of G.L.C. Ajmer. Draft a notice is not more than 50 words for the school notice board, asking students to give their names for taking part in dance competition. 4
4. Write a report in about 100 to 120 words on 'Road Accident'. 5
5. Write an article on 'Mahatma Gandhi'. (100 to 120 words) 5

F: Reading:- 12

1. Read the passage and on the basis of your understanding of the passage answer the questions given below:

1. India has never subscribed to the doctrine of militarism and war in her history. Here war was never treated as an ideal. It was only tolerated as unavoidable and inevitable, and all attempts were made to check it and bring it under control. In spite of the frequency of wars in ancient India, in spite of highly developed military organization, techniques of war and imperialism, and in spite of the open justification of war as national policy, the heart of India loved pacifisms as an ideal capable of realization. India's symbolic role was that of a peacemaker and it sincerely pinned its faith on the principle of „Live and let live“. At least philosophically, India's intelligence supported the cause of peace not only in national affairs but in international affairs also. All the great seers of the yore visualized the unity of life, permeating all beings, animate or inanimate, which ruled out killing and suicidal wars.

2. This doctrine of philosophical pacifisms was practiced by ancient Aryans is, no doubt, a question of controversial nature. Certainly, the great Indian teachers and savants stuck to this doctrine tenaciously and in their personal life they translated it into practice and preached it to masses and even to princes of military classes.

3. Another culture of those times, the existence of which has been proved by the excavations of Mohanjo-Daro, also enunciated the doctrine of pacificism and friendship to all. Strangely enough, the Indus Valley civilization has revealed no fortification and very few weapons.

4. Ahimsa or the doctrine of non-violence in thought, speech and action assumed a gigantic importance in the Buddhist and Jain period. By a constant practice of this virtue, man becomes unassailable by even wild beasts, who forgot their ferocity the moment they entered the circumference of his magnetic influence. The monks and nuns of these churches were apostles of peace, who reached every nook and corner of the world and delivered the message of love to war-weary humanity. The greatest votary was the royal monk Ashoka, who in reality was responsible for transforming Ahimsa as an act of personal virtue, to Ahimsa as an act of national virtue. Aglasem School 2

5. Many a historian recounting the causes of the downfall of the Mauryas, hold the pacific policy of Ashoka which had eschewed the aggressive militarism of his predecessors, responsible for an early decay of the military strength of the state and its consequent disintegration, leading to the rise of Sungas, Kanvas and Andhras. But, in reality the fault lies with the weak successors of Ashoka, who could not wield the weapon of non-violence

with a skill and efficiency which required the strength of a spiritual giant like Ashoka. They failed due to their subjective weakness: Pacifism itself was no cause of their failure.

6. Besides the foregoing philosophical and religious school of thought, even many political authorities gave their unqualified support to the cause of pacifisms. They recognized the right of rivals to exist, not mainly as enemies, but as collaborators in the building of a civilization operation. Thus, for centuries, in the pre-Mauryan India, scores of small independent republics existed and flourished without coming in clash with each other.

7. With regard to Kautilya, the much maligned militarist and the so called Machiavelli of India, He thinks that the object of diplomacy is to avoid war.

8. The Mahabharata observes in the connection, "A wise man should be content with what can be obtained by the expedients of conciliation, gift and dissention." It denounces the warring world of men by comparing it to a dog-kennel. "First there comes the wagging of tails, then turning of one round to other, then the show of teeth, then the roaring and then comes the commencement of the fights. It is the same with men; there is no difference whatever." Yajnavalkya adds: „War is the last expedient to be used when all others have failed." Likewise, Sri Krishna who's Bhagwad-Gita has been styled by some as „a song of the battle", should not be considered out and out militarist. When all the three expedients were exhausted, then alone the fourth was resorted to.

9. All possible avenues of peace such as negotiation, conciliation through conference, meditation and so on, were explored before the war was resorted to. This proves that the heart of ancient India was sound and it longed for peace, although war also was not treated as an anathema, which was to be avoided as far as possible.

1.1 Answer each of the questions given below by choosing the most appropriate option: 4

(i) The heart of India loved ____

- a) a highly developed military organization b) techniques of wars and imperialism
c) loans d) pacifism

(ii) Principle of „Live and let live" means

- a) imperialism b) militarism
c) frequency of wars among nations d) role of peace makers Aglasem School 3

(iii) Aryans preached and practiced this to the masses

- a) non-violence b) freedom of speech and action
c) philosophical pacifisms d) practice of military organization

(iv) Mahabharata compares the warring world with

- a) wise men b) dog kennel c) song of the battle d) militarist

1.2 Answer the following questions briefly:

(1X4=4)

(i) How was war treated in India?

(ii) Describe India's preparedness for war in spite of their belief in Pacifism.

(iii) How did the Aryans practice the Doctrine of Pacifism?

(iv) What is Ahimsa?

1.3 Answer any three of the following questions in 25-30 words: (1X2=2)

(i) What kind of unity did all the seers visualize?

(ii) Which options were explored by Sri Krishna before resorting to war?

1.4 Pick out the words/phrases from the passage which are similar in meaning to the following: (1X2=2)

(i) express in definite and clear terms (para 3)

(ii) defensive wall (para 3)

SUMMATIVE ASSESSMENT – I (2019 - 20)

CLASS- 11th

SUBJECT- PHYSICS

MM: 50

TIME: 3 Hours

Section-A

5 × 1 = 5

1. Which of the following is not a unit of time?
(A) second (B) parsec (C) year (D) light year
2. Dimension formula of restoring force is-
(A) $[ML^1T^{-2}]$ (B) $[ML^2T^{-2}]$ (C) $[ML^2T^{-1}]$ (D) $[M^2L^2T^{-1}]$
3. Which one of the following quantities has not been expressed in proper units?
A. Coeff of Elasticity : N/m^2
B. Surface Tension : N/m
C. Energy : $Kg.m/sec$
D. Pressure : N/m^2
4. Angle that the vector $\vec{A} = 2\hat{i} + 2\hat{j}$ makes with y-axis is-
(A) $\tan^{-1}(3/2)$ (B) $\tan^{-1}(2/3)$ (C) $\sin^{-1}(2/3)$ (D) $\cos^{-1}(3/2)$
5. The proper use of lubricants cannot reduce.
A. Static friction
B. Inertia
C. Sliding friction
D. Rolling friction

Section-B

10 × 1 = 10

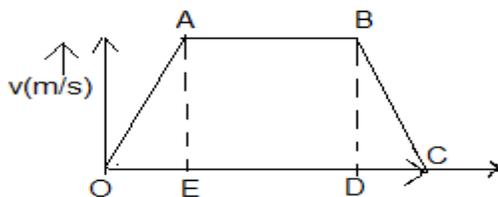
6. Write the dimensional formula of torque.
7. Which of the following measurements is more accurate and why
(A) 0.0002 gm (B) 20.0 gm
8. Is it possible to have negative value in speed and displacement?
9. If the velocity of an object decreases with time, then its acceleration is.....
10. What is the value of m in $\hat{i} + m\hat{j} + \hat{k}$ to be unit vector?
11. What is the path followed by a projectile?
12. Define angle of repose.
13. Two masses are in the ratio 1 : 5 . What is the ratio of their inertia?
14. When a bomb explodes in mid-air, at its highest point, what is the direction of motion of its core?
15. A stone breaks the window glass into pieces, while a bullet pierces through the same, why?

Section-C**5 × 2 = 10**

16. Prove that the coefficient of static friction is “Tangent” of the angle of repose
i.e. $\mu = \tan\phi$.
17. Distinguish b/w static friction, limiting friction and kinetic friction. How do they vary with the applied force, explain by diagram.
18. Write the three laws of motion.
19. A cyclist has to bend a little inwards from his vertical position while turning. Why?
20. Two cars A and B are running at velocities of 60 km/hr and 45 km/hr respectively. Calculate the relative velocity of car A if
- They are both travelling eastwards
 - Car A is travelling eastwards and car B is travelling westwards.

Section-D**6 × 3 = 18**

21. Derive the three equation of motion.
22. The force experienced by a mass moving with a uniform speed v in a circular path of radius r experiences a force which depends on its mass, speed and radius. Prove that the relation is $f = \frac{mv^2}{r}$.
23. If two resistances of values $R_1 = (2.0 \pm 0.1)\Omega$ and $R_2 = (12.3 \pm 0.2)\Omega$ are put in parallel. Find the error of combination?
24. Find the acceleration produced in an object whose position is $x(t) = 50t^2 + 20t + 30$.
25. Find the Dot and Cross-product of $\vec{A} = 2\hat{i} + 3\hat{j} - \hat{k}$ and $\vec{B} = 2\hat{j} + 5\hat{k} + 2\hat{i}$
26. The velocity-time graph of an object moving along a straight line is as shown in fig. calculate distance covered by object b/w (i) $t=0$ to $t=5$ sec (ii) $t=0$ to $t=10$ sec

**Section-E****3.5 × 2 = 7**

27. What is the need for banking of road? Write the expression for the maximum speed with which a vehicle can safely negotiate a curved road banked at an angle θ . The coefficient of friction b/w the wheels and the road is μ .
28. A body of mass m is placed on the floor of a lift. Find its apparent weight when the lift is-
- Moving upward with uniform acceleration
 - Moving downward with uniform acceleration
 - Moving upward with constant speed

SUMMATIVE ASSESSMENT - I (2019-20)

CLASS- 11th

SUBJECT- CHEMISTRY

MM: 50

TIME: 3 Hours

Note: a). Question No. 1 to 15 each of 1 mark.

b). Question No. 16 to 20 each of 2 marks.

c). Question No. 21 to 27 each of 3 marks.

d). Question No. 28 carries 4 marks.

Q.1 Which of the following is the Artificial element in the periodic table -

- (a) Tc (b) Te (c) Ru (d) Os

Q.2 Which of the following should be the longest bond?

- (1) S-H (2) O-H (3) N-H (4) P-H

Q.3 I.P. increases in the order-

- (a) Be, B, C, N (b) B, Be, C, N (c) C, N, Be, B (d) N, C, Be, B

Q.4 Which of the following set of element exhibits positive and negative O.S.-

- (a) O, Cl, H (b) F, Li, Be (c) Na, Mg, Al (d) H, Ba, Ne

Q.5 In which process energy will be released

- (a) $A_{(g)} \rightarrow A^+_{(g)} + 1e^-$ (b) $\frac{1}{2} A_{2(g)} \rightarrow A_{(g)}$ (c) $A_{(s)} \rightarrow A_{(g)}$ (d) $A^+ + B^-_{(g)} \rightarrow A^+ B^-_{(s)}$

Q.6 Calculate the molar mass of following-

- (i) $C_6H_{12}O_6$ (ii) CO_2

Q.7 How much copper can be obtained from 100g of copper sulphate?

Q.8 How many significant figures are present in the following-

- (i) 5000.0 (ii) 3.6404 (iii) 0.045 (iv) 2808

Q.9 Calculate the mass and charge of one mole of electrons.

Q.10 What is the lowest value of n that allows g orbitals to exist.

Q.11 How many electrons in an atom may have the following quantum numbers?

- (a) $n=4, m_s = -\frac{1}{2}$ (b) $n=3, l=0$

Q.12 Indicate the number of unpaired electrons in (a) As (b) Te (c) Cr (d) Fe .

Q.13 In terms of period and group where would you locate the element with $Z=114$?

Q.14 Explain why cations are smaller and anions larger in radii than parent atoms.

Q.15 Write the general outer electronic configuration of s, p, d and f block element.

Q.16 Calculate the σ & Z^* for $2P e^-$ of Cl and $3S e^-$ of Cu.

Q.17 Classify the following into iso electronic & iso structural species.

- (a) CH_3^\ominus, NH_3 (b) CH_4, CCl_4 (c) XeF_2, I_3^- (d) BF_3, BCl_3

Q.18 Calculate the hybridised state of atom in following compⁿ

- (a) PO_4^- (b) XeO_3F_2

Q.19 What is overlapping? Arrange the following increasing order of extent of overlapping.

(i) (a) S - S (b) S - P (c) P - P_n (d) P - P_σ

(ii) $\begin{array}{c} | \\ -C-F \\ | \end{array}$, $\begin{array}{c} | \\ -C-Cl \\ | \end{array}$, $\begin{array}{c} | \\ -C-Br \\ | \end{array}$

Q.20 An atom of an element contains 29 electrons and 35 neutrons deduce

(i) Number of protons (2) the electronic configuration of the element.

Q.21 Assign oxidation Number to the underlined element.

(i) NaH_2PO_4 (ii) $KAl(SO_4)_2 \cdot 12H_2O$ (iii) $K_4[Fe(CN)_6]$ (iv) K_2MnO_4

Q.22 The threshold frequency ν_0 for a metal is $7.0 \times 10^{14} S^{-1}$. Calculate the kinetic energy of an electron emitted when radiation of frequency $\nu=1.0 \times 10^{15} sec^{-1}$ hits the metal.

Q.23 Calculate the energy associated with the first orbit of He⁺. What is the radius of this orbit?

Q.24 Using S, P, D notations, describe the orbital with the following quantum number-

(a) $n=1, l=0$ (b) $n=3, l=1$ (c) $n=4, l=2$

Q.25 A solution is prepared by adding 2g of a substance A to 18 g of water. Calculate the mass % of the solute.

Q.26 Explain the Redox process with help of Electro chemical cell or galvanic cell.

Q.27 Calculate the molarity of a solution of ethanol in water in which the mole fraction of ethanol is 0.040. (Assume the density of water to be one)

Q.28 Balance the following Redox Reaction.

i. $P_4 + OH^- \rightarrow PH_3 + HPO_2^-$ (In basic medium)

ii. $MnO_4^- + SO_2 \rightarrow Mn^{2+} + HSO_4^-$ (In Acidic medium)

SUMMATIVE ASSESSMENT - I (2019-20)

CLASS-11th

SUBJECT- MATHS MM: 80

TIME: 3 Hours

- Q.1 Distance between the lines $5x+3y-7=0$ and $15x+9y+14=0$ 1
 (a) $\frac{35}{\sqrt{34}}$ (b) $\frac{1}{3\sqrt{34}}$ (c) $\frac{35}{3\sqrt{34}}$ (d) None
- Q.2 The angle between the lines $2x-y+3=0$ and $x+2y+3=0$ 1
 (a) 90° (b) 60° (c) 45° (d) 180°
- Q.3 If $|1 - i|^x = 2^x$, then value of x - 1
 (a) 2 (b) 0 (c) 1 (d) 3
- Q.4 The sum of $Z = 3 + 4i$ and its conjugate complex number is- 1
 (a) 0 (b) $8i$ (c) 6 (d) 5
- Q.5 $\cos 2x$ is equal to- 1
 (a) $\sec 2x$ (b) $1-\sin^2x$ (c) $\tan 2x$ (d) None
- Q.6 If $A=\{3,4,5\}$ find number of element in $A \times A$. 1
- Q.7 Change into degree. If measure of angle in radian $\frac{11}{16}$. 1
- Q.8 Find the value of $\tan \frac{19\pi}{3}$. 1
- Q.9 Find the value complex number in for $a + ib$ 1
 (a) $i^6 + i^8$
- Q.10 Solve $3x + 8 > 2$ when x is an integer. 1
- Q.11 Solve and show on line $3(2-x) \geq 2(1-x)$. 1
- Q.12 Find slope and intercept on y-axis $x-2y=-4$ 1
- Q.13 Find distance of a point (x, y) from the origin. 1
- Q.14 Equation passing through the point $(-1,2)$ with slope 4. 1
- Q.15 Convert complex number i in the polar form. 1
- Q.16 Solve the equation $\sqrt{2x^2 + x + \sqrt{2}} = 0$ 2
- Q.17 If $A= \{-1,1\}$, Find $A \times A \times A$. 2
- Q.18 Find the domain and range of $f(x) = \sqrt{9 - x^2}$. 2
- Q.19 Prove that $2\sin^2\pi/6 + \operatorname{cosec}^27\pi/6 \cos^2\pi/3 = 3/2$ 2
- Q.20 Find the modulus of $\frac{1+i}{1-i} - \frac{1-i}{1+i}$. 2
- Q.21 If $(x + iy)^3 = \mu + iv$, then show that $\frac{\mu}{x} + \frac{v}{y} = 4(x^2 - y^2)$ 3
- Q.22 Prove by using the principle of mathematical induction for all $n \in \mathbb{N}$. 3

$$P(n): 1.3 + 3.5 + 5.7 + \dots + (2n-1)(2n+1) = \frac{n(4n^2+6n-1)}{3}$$
- Q.23 Prove that $2\cos \frac{\pi}{13} \cdot \cos \frac{9\pi}{13} + \cos \frac{3\pi}{13} + \cos \frac{5\pi}{13} = 0$ 3
- Q.24 Find the coordinate of the foot of perpendicular from a point $(-1, 3)$ to line $3x-4y-16=0$ 3

- Q.25 Find the angle between the lines $\sqrt{3}x + y = 1$ and $x + \sqrt{3}y = 1$ 3
- Q.26 How many liters of water will have to be added to 1125 liters of the 45% solution of acid so that the resulting mixture will contain more than 25% but less than 30% acid content? 3
- Q.27 Find $\sin x/2, \cos x/2, \tan x/2$ if $\sin x = 1/4, x$ in quadrant II. 3

Or

Prove by using the principle of mathematical induction for all $n \in \mathbb{N}$.

P(n): $41^n - 14^n$ is a multiple of 27.

- Q.28 Reduce $\left(\frac{1}{1-4i} - \frac{2}{1+i}\right) \left(\frac{3-4i}{5+i}\right)$ to standard form- 4
- Solve system of inequalities by graphically
 $2x + y \geq 4, x + y \leq 3, 2x - 3y \leq 6$

- Q.29 If three points $(h,0), (a,b)$ and $(0,k)$ lie on line show that $\frac{a}{h} + \frac{b}{k} = 1$. 4

Or

Find the solution for equation

$$\cos 3x + \cos x - \cos 2x = 0$$

- Q.30 Prove that $\frac{\cos 4x + \cos 3x + \cos 2x}{\sin 4x + \sin 3x + \sin 2x} = \cot 3x$. 4

- Q.31 Prove by using the principle of mathematical induction for all $n \in \mathbb{N}$. 4

$$\frac{1}{1.2.3} + \frac{1}{2.3.4} + \frac{1}{3.4.5} + \dots + \frac{1}{n(n+1)(n+2)} = \frac{n(n+3)}{4(n+1)(n+2)}$$

- Q.32 If α and β are different complex numbers with $|\beta| = 1$, then find $\left|\frac{\beta - \alpha}{1 - \beta\alpha}\right|$. 4

- Q.33 A solution is to be kept between 68°F and 77°F . what is the range in temperature in degree Celsius if Celsius / fahrenheit conversion formula is given by $F = \frac{9}{5}C + 32$. 4

Or

A line perpendicular to the line segment joining the points $(1,0)$ and $(2,3)$ divides it in ratio $1:n$. Find the equation of the line.

- Q.34 Prove that $\sin 3x + \sin 2x - \sin x = 4 \sin x \cos \frac{x}{2} \cos \frac{3x}{2}$. 5

- Q.35 If $a + ib = \frac{c+i}{c-i}$, where c is real, prove that $a^2 + b^2 = 1$ and $\frac{b}{a} = \frac{2c}{c^2 - 1}$. 5

Or

Find the equations of lines passing through the point $(2,2)$, such that the sum of their intercepts on the axis is 9.