

**ATOMIC ENERGY EDUCATION SOCIETY**  
**PERIODIC TEST – II (2018-19)**

<b>CLASS: X</b>	<b>DATE OF EXAM: 26-09-18</b>	<b>TIME: 3 HOURS</b>
<b>SUBJECT: ENGLISH</b>		<b>MARKS: 80</b>

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**General Instructions:**

- (i) The question paper is divided into three sections :
- |   |          |
|---|----------|
| Section A: Reading                          | 20 marks |
| Section B: Writing and Grammar              | 30 marks |
| Section C: Literature and Long Reading Text | 30 marks |
- (ii) All questions are compulsory.  
(iii) You may attempt any section at a time.  
(iv) All questions of that particular section must be attempted in the correct order.

**SECTION A (READING-20 MARKS)**

**1. Read the following passage carefully.**

These days, it is not unusual to see people listening to music or using their electronic gadgets while crossing busy roads or travelling on public transport, regardless of the risks involved. I have often wondered why they take such risks: is it because they want to exude a sense of independence, or is it that they want to tell the world to stop bothering them? Or is it that they just want to show how cool they are? Whether it is a workman or an executive, earphones have become an inseparable part of our lives, sometimes even leading to tragicomic situations.

The other day, an electrician had come to our house to fix something. We told him in detail what needed to be done. But after he left, I found that the man had done almost nothing. It later turned out that he could not hear our directions clearly because he had an earphone on. Hundreds of such earphone addicts commute by the Delhi Metro every day. While one should not begrudge anyone their moments of privacy or their love for music, the fact is 'iPod oblivion' can sometimes be very dangerous.

Recently, I was travelling with my wife on the Delhi Metro. Since the train was approaching the last station, there weren't too many passengers. In our compartment, other than us, there were only two women sitting on the other side of the aisle. And then suddenly, I spotted a duffel bag. The bomb scare lasted for several minutes. Then suddenly, a youth emerged from nowhere and picked up the bag. When we tried to stop him, he looked at us, surprised. Then he took off his earpieces, lifted the bag, and told us that the bag belonged to him and that he was going to get off at the next station.

We were stunned but recovered in time to ask him where he was all this while? His answer: he was in the compartment, leaning against the door, totally immersed in the music. He had no clue about what was going on around him. When he got off, earplugs in his hand, we could hear strains of the song.

**1.1. On the basis of your reading of the passage, answer any four of the following questions in 30-40 words each** **2 x 4 = 8**

- (a) What reasons does the author offer for the people taking risks on the road?
- (b) Why were the people in the train doubtful about the bag?
- (c) Explain the term: “earphone addicts”.
- (d) Why didn’t the owner of the bag come to claim the bag?
- (e) Why were the passengers stunned?

**1.2. On the basis of your reading of the passage, fill in any two of the following blanks with appropriate words/phrases** **1 x 2 = 2**

- (a) The electrician didn’t carry out the work properly because \_\_\_\_\_.
- (b) According to the author, people take risks by using their electronic gadgets \_\_\_\_\_.
- (c) \_\_\_\_\_ lasted for several minutes.

**1.3. Find words from the paragraph indicated which are similar in meaning to the words given below. (Any Two)** **1 x 2 = 2**

- (a) show (para 1)
- (b) picked (Para 3)
- (c) absorbed (para 4)

**2. Read the passage given below carefully.**

It is no small honour to be asked to address the Convocation of a University in India, and certainly it is a unique experience for me, at any rate, to be called upon to address a University Convocation at one place a second time.

I know poverty and misery and I quite appreciate by personal experience what it is to be poor, what it is to have no clothes, what it is to have no books, what it is to struggle through life, what it is to walk through the streets without an umbrella, without conveyance along miles in dusty roads. I have been through it all and I can understand the difficulties that most of you graduates have to face up today. I am speaking from a long experience of 60 years. Please do not imagine that all the 60 years were milk and roses. To be able to accomplish something I want to tell you that you have to go through such an experience.

I admit, success in life is not always to the intelligent or the strong and it is to some extent a bit of a gamble, but nonetheless those who have got their minds right and those who know their job will sooner or later, sooner perhaps than later make their way in life. But they should not be disappointed if they do not, they have to face up life and take it as they find it. This is the kind of philosophy that I have learnt by experience, and I make a free gift of it to you all.

What I say is this that the great things in life are not really great things in life. The Nobel Prize, the F.R.S. and the like, many of them leave a bitter taste in the mouth. What I love is to enjoy the common things of life. I am happy that I am still able to sleep at night provided I have a three

mile walk in the evening. I am still able to enjoy a good lunch or good dinner. I am still able to look at the blue sky and like it. I still like to walk in the open fields and like the smell of the *Ragi* or the *Jowar*. I feel a younger man when I see the Babul flower and say God has given us these wonderful things. That is the real philosophy of life to appreciate what we see around us.

We think that happiness consists in going to pictures and seeing thrilling films and techni - colour dramas. Not at all, the great things in life are the God-given things which cost nothing. What you need is the desire to appreciate them. If you have your minds and hearts open, you have around you things which give you joy. There is the butterfly jumping about in flourishing colours on all sides. Look at this wonderful thing that God has given for our enjoyment.

We have to love nature and appreciate nature and appreciate her wonderful gifts, her marvellous ingenuity, her resourcefulness, her infinite variety. It is the same thing that has inspired me all my life.

- *An extract from the convocation address of C.V. Raman, delivered at the Agra University on 18 November 1950.*

**Attempt any eight of the following questions.**

**(1 x 8 = 8)**

- (a) What were the main difficulties C.V. Raman had to experience in his childhood?
- (b) According to C.V. Raman, what should one do to get success in life?
- (c) Why has life been termed as a gamble?
- (d) What were the common things C.V. Raman enjoyed in life?
- (e) What do the great things in life cost?
- (f) Which wonderful gifts given to us by God must we appreciate?
- (g) How does C.V. Raman's speech inspire us?
- (h) What instance, quoted by C.V. Raman in his speech, show that he was a nature lover?
- (i) What is the philosophy of life C.V. Raman speaks of?

**SECTION –B**  
**(WRITING & GRAMMAR 30 MARKS)**

3. Many young people are tempted to go abroad either for higher education or better prospects regardless of their aptitude or financial constraints. This deprives our own country of the expert knowledge of such people. Write a letter in **100-120** words to a newspaper editor apprising the students of the vast opportunities in India and stating why they should stay back in India. You are Gautam/Gauri 2, Gobind Enclave, Meerut. **(8)**

**OR**

You are the Principal of Green Valley Public School, 57 E Outer Ring Road, New Delhi. Write a letter to the Sales Manager, Adarsh Stationery Mart, 33 B Block, New Delhi placing order for registers, ledgers, pens, pencils, computer sheets for account department and waste paper baskets.

**4. In 200-250 words write a story based on the input given below: (10)**

An old woman recalls-her daughter lost in a major train accident-had complained-not found-grand daughter posted pieces of news on Facebook-sent mails urging people to circulate it-six months later received a mail-old woman's daughter found-communication at its best

OR

True story-Mohammad Aamir Ali-son of Jamia Millia Islamia electrician-second among seven brothers-scored good marks in school board examinations-couldn't get through to Jamia's BTech course three consecutive years-took admission for diploma in mechanical engineering at Jamia in 2015-project on charging infrastructure for electric vehicles at zero cost-Professor Waqar Alam supported-attracted attention of Frisson Motor Works, North Carolina-offered annual salary package of over \$100000 from an American firm-passion and hard work can take you places.

**5. Read the paragraph given below and fill in the blanks with the help of options that follow. (Any Four) (1 X 4 = 4)**

Our family is one of a kind. On one hand we all (a) \_\_\_\_\_ a sweet tooth, on the other we cannot face its consequences. We (b) \_\_\_\_\_ detect the aroma of a gajar halwa or a chocolate fudge cake miles away. However, the aftermath (c) \_\_\_\_\_ our obsession with the sweet things in life (d) \_\_\_\_\_ us distressed. I wish I could (e) \_\_\_\_\_ those extra tiers of fat as a hereditary gift.

- |                   |                |               |                  |
|-------------------|----------------|---------------|------------------|
| (a) (i) shares    | (ii) share     | (iii) shared  | (iv) are sharing |
| (b) (i) will      | (ii) would     | (iii) can     | (iv) could       |
| (c) (i) for       | (ii) about     | (iii) on      | (iv) of          |
| (d) (i) leaves    | (ii) leave     | (iii) left    | (iv) are leaving |
| (e) (i) dismissed | (ii) dismisses | (iii) dismiss | (iv) miss        |

**6. The following paragraph has not been edited. There is one error in each line. Identify the error in each line and write it along with the correction. The first one has been done as an example. (Any Four) (1 X 4 = 4)**

	<b>Error</b>	<b>Correction</b>
Forests, rivers, mountains, plants or animals	eg. or	and
are all parts in our heritage. They are our	(a) _____	_____
natural wealth and we were largely	(b) _____	_____
dependent on it. Our lives are linked	(c) _____	_____
together like the chain and if we destroy	(d) _____	_____
even one of these, we could be harming	(e) _____	_____
ourselves.		

**7. Rearrange any four of the following word clusters to make meaningful sentences.**

**(1x4=4)**

- (a) standing / at the / one day / I / beach / was
- (b) number / come / of people / a large / had / there
- (c) hawkers / there / eatables / so many / were / selling
- (d) wave / suddenly / came / huge / a
- (e) road / all the / rushed / towards / the / people

**SECTION-C**  
**(Literature-30 MARKS)**

**8. Read the extract given below and answer the questions that follow.**

**(1 x 4 = 4)**

**‘Evidently the wrong animal had been hit, and the beast of prey had succumbed to heart failure...’**

- (a) What had Mrs. Packletide wanted to kill and why?
- (b) How did the two animals die?
- (c) Who was Miss Louisa Mebbin?
- (d) How did Miss Louisa Mebbin take advantage of this situation?

**OR**

***“Now Amelia, you mustn’t give way. We’ve all got to die some time or other. It might have been worse.”***

- (a) Who is the speaker?
- (b) What prompts the speaker to say these words?
- (c) What does the speaker mean by ‘it might have been worse’?
- (d) What does it reveal about the speaker’s character?

**9. Answer any four of the following in 30-40 words each.**

**(2 X 4 = 8)**

- (a) Why does Ozymandias refer to himself as ‘King of Kings’? What quality of the king is revealed through this statement?
- (b) What were Ali’s old ways and when did his life take a new turn?
- (c) Bring out the irony in the statement –‘your song must be your own’.
- (d) Why does Shakespeare refer to war as ‘wasteful’?
- (e) Although Nicola and Jacopo are young boys, the author refers to them as gentlemen. Why does he do so?

- 10. Answer the following in about 100-120 words. (8)**  
How did the postmaster change from an indifferent, hard-hearted individual into a warm humane person?

**OR**

Imagine you are Mr. Abel Merryweather. Write a letter to your friend, James explaining your decision to get married as well as the disgraceful behaviour of your daughters and sons-in-law.

- 11. Answer the following question in 200-250 words: (10)**

Helen describes her father as ‘the most loving and indulgent.....’ Give a short character sketch of Arthur H. Keller

**OR**

Why was Helen accused of plagiarism? What effect did it have on her?

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## परमाणु ऊर्जा शिक्षण संस्था

अणुशक्ति नगर, मुंबई

आवधिक परीक्षा-॥ 2018-19

कक्षा - 10

विषय - हिंदी ('अ' वर्ग)

पूर्णांक - 80 अंक

समय - 3 घंटे

- निर्देश :- 1. इस प्रश्नपत्र में चार खंड हैं - क, ख, ग, घ ।  
2. चारों खंडों के प्रश्नों के उत्तर देना अनिवार्य है ।  
3 . यथासंभव प्रत्येक खंड से उत्तर क्रमशः दीजिए ।

### ( खंड - क )

प्रश्न -1 अधोलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के सही उत्तर दीजिए -

कार्यकुशलता का पहला अंग तो यह है कि हम अपने कार्य को यथासमय अच्छी तरह जानें । हममें से अधिकतर लोग कार्य उठा तो लेते हैं पर उसे अच्छी तरह नहीं जानते और न जानने का यत्न ही करते हैं । जब सफलता नहीं मिलती तो अपने को दोष न देकर दूसरों ही को दोष देते हैं और बार-बार कार्य बदलते हुए संताप में जीवन जीते हैं । छोटे-बड़े सभी कामों में यह देखा जाता है । हम लोगों में से अधिकतर लोग जो काम करते हैं उसमें पूरे तौर से योग्यता और निपुणता प्राप्त करने का यत्न नहीं करते । इसी से हमारा काम पूरा नहीं होता और हमारे हाथ से सब काम निकल जाता है । दूसरे लोग उसी काम को ज्यादा अच्छी तरह करते हैं और हम स्वयं उनके काम को अपने काम से ज्यादा पसंद करने लगते हैं । यदि हम काम के एक-एक अंग को अच्छी तरह समझें और उसमें प्रवीणता प्राप्त कर लें तो हम अपनी और अपने काम-दोनों की वृद्धि और उन्नति कर सकते हैं ।

1. 'संताप' शब्द किन दो शब्दों से बना है ? (1)
2. इस गद्यांश का उचित शीर्षक बताइए ? (1)
3. मनुष्य उन्नति कैसे कर सकता है ? (2)
4. असफल होने पर हम लोग क्या करते हैं ? (2)
5. कार्यकुशलता के लिए क्या आवश्यक है ? (2)

**प्रश्न-2 अधोलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के सही उत्तर दीजिए-**

अपना ही मन खो बैठे जब औरों की क्या बात है,  
सह ले पगले! चुप हो सह ले, आया जो आघात है |  
दुनिया का भी विस्तार बड़ा  
जीवन का भी विस्तार बड़ा  
तू किस भ्रम में युगों-युगों से  
इस सराय के द्वार खड़ा ?  
चलता-फिरता दिन है मूरख! चलती-फिरती रात है |  
गहराई को कौन पूछता  
गहरा तो है कूप भी,  
पर न पहुँचता वहाँ समीरन  
नहीं पहुँचती धूप भी |  
जीत उसी की जो लहरों का देता रहता साथ है!  
बादल का क्या दोष  
फोड़ यदि सका न यह चट्टान तू ?  
पानी तो पानी है, मत कर  
यों अपना अपमान तू  
कल्प-कल्प का धैर्य जुटे जब बनता तभी प्रपात है  
सह के पगले! चुप हो सह ले, आया जो आघात है |

1. प्रस्तुत पंक्तियों में 'पगले' शब्द का प्रयोग किसके लिए हुआ है ? (1)
2. 'फोड़ यदि न सका चट्टान तू ?' में चट्टान से क्या अभिप्राय है ? (1)
3. प्रस्तुत पद्यांश में 'सराय' शब्द का प्रयोग किसके लिए हुआ है ? (1)
4. कवि के अनुसार जीत किसकी होती है ? (2)
5. गहरा होने पर भी कुआँ प्रकृति के किन वरदानों से वंचित रहता है ? (2)

**( खंड- ख )**

**प्रश्न-3 रचना के आधार पर वाक्य के भेद बताइए -**

**(1x3=3)**

- i. मैं इन दिनों कसरत कर रहा हूँ |
- ii. कल बारिश होती रही इसलिए कपड़े नहीं सूख पाए |
- iii. मुझे वह पैस मिल गया जो खो गया था |

प्रश्न-4 (क) निर्देशानुसार वाच्य परिवर्तन कीजिए –

(1x2=2)

- i. महिलाएँ गीत गा रही थी | (कर्म वाच्य में बदलिए)
- ii. गीता चल नहीं सकती | (भाव वाच्य में बदलिए)

(ख) अधोलिखित वाक्यों में वाच्य भेद बताइए –

(1x2=2)

- i. मजदूर को भोजन दिया गया |
- ii. माँ ने पुत्र को सुला दिया |

प्रश्न-5 मोटे अक्षरों में लिखे पदों का पद-परिचय दीजिए |

(1x4=4)

- i. एवरेस्ट संसार का सबसे ऊँचा शिखर है |
- ii. हम मनाली घूमने गए |
- iii. वह अचानक दिखाई दिया
- iv. रमेश दूध पी रहा है |

प्रश्न-6 (क) अधोलिखित प्रश्नों के उत्तर एक शब्द में लिखिए |

(1x2=2)

- I. 'शृंगाररस' का स्थायी भाव लिखिए-
- II. 'निर्वेद' किस रस का स्थायी भाव है?

(ख) निम्न पंक्तियों में रस बताइए –

(1x2=2)

- i. बरसे कंवल भीजै पानी | कबीरदास की उलटी बानी |
- ii. कहत, नटत, रीझत, खिजत, मिलत, खिलत, लजियात |  
भरे भौन में करत हैं, नैनन ही सो बात |

( खंड- ग )

प्रश्न-7 निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए-

(2+2+1=5)

फ़ादर बुल्के संकल्प से संन्यासी थे | कभी-कभी लगता है कि वह मन से संन्यासी नहीं थे | रिश्ता बनाते थे तो तोड़ते नहीं थे | दसियों साल बाद मिलने के बाद भी उसकी गंध महसूस होती थी | वह जब भी दिल्ली आते जरूर मिलते-खोजकर, समय निकालकर, गर्मी, सर्दी, बरसात झेलकर मिलते, चाहे दो मिनट के लिए ही सही | यह कौन संन्यासी करता है ? उनकी चिंता हिंदी को राष्ट्रभाषा के रूप में देखने की थी | हर मंच से इसकी तकलीफ बयान करते, उसके लिए अकादमिक तर्क देते | बस इसी एक सवाल पर उन्हें झुंझलाते देखा है और हिंदी वालों द्वारा ही हिंदी की उपेक्षा पर दुःख करते पाया है | घर-परिवार के बारे में, निजी दुःख-तकलीफ के बारे में पूछना उनका स्वभाव था और बड़े से बड़े दुःख में उनके मुख से सांत्वना के जादू भरे दो शब्द सुनना एक ऐसी रोशनी से भर देता था जो किसी गहरी तपस्या से जनमती है | 'हर मौत

दिखाती है जीवन को नयी राह' मुझे अपनी पत्नी और पुत्र की मृत्यु याद आ रही है और फ़ादर के शब्दों से झरती विरल शांति भी |

- i. लेखक ने फ़ादर बुल्के को किस बात पर झुँझलाते देखा था ?
- ii. फ़ादर बुल्के जब भी दिल्ली जाते लेखक से हर हाल में मिलते थे | इससे फ़ादर की किस विशेषता का पता चलता है ?
- iii. 'संन्यासी' शब्द में उपसर्ग एवं प्रत्यय बताइए |

**प्रश्न-8 निम्नलिखित में से किन्हीं चार प्रश्नों के उत्तर लिखिए |**

**(2x4=8)**

- i. सेनानी न होते हुए भी लोग चश्मे वाले को कैप्टन क्यों कहते थे ?
- ii. बालगोबिन भगत की पुत्रवधू पुनर्विवाह क्यों नहीं करना चाहती थी ?
- iii. "बिना विचार, घटना और पात्रों के भी कहानी लिखी जा सकती है |" यशपाल जी के इस विचार से आप कहाँ तक सहमत हैं?
- iv. लेखक ने फ़ादर बुल्के को 'मानवीय करुणा की दिव्य चमक' क्यों कहा है?
- v. 'एक कहानी यह भी' आत्मकथ्यमें लेखिका के पिता ने रसोई को 'भटियारखाना' कहकर क्यों संबोधित किया है ?

**प्रश्न-9 निम्नलिखित पद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए-**

**(2+2+1=5)**

मन की मन ही मॉझ रही |  
कहिए जाइ कौन पै ऊधौं, नाहीं परत कही |  
अवधि अधार आस आवन की, तन मन बिथा सही |  
अब इन जोग सँदेसनि सुनि-सुनि, बिरहिनि बिरह दही |  
चाहति हुती गुहारि जितहिँ तैं, उत तैं धार बही |  
'सूरदास' अब धीर धरहिँ क्यों, मरजादा न लही |

- i. गोपिकाएँ किस अग्नि में जल रही हैं और क्यों?
- ii. गोपियाँ अब धैर्य धारण नहीं करना चाहती हैं | क्यों?
- iii. गोपियों के मन की कौन-सी इच्छा मन में ही रह गई ?

**प्रश्न-10 अधोलिखित प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर लिखिए**

**(2x4=8)**

- i. उद्धव के व्यवहार की तुलना किस-किस से की गयी है ?
- ii. अधोलिखित पंक्तियों का भाव स्पष्ट कीजिए –

बिहसि लखनु बोले मृदु बानी | अहो मुनीसु महाभट मानी |  
पुनि-पुनि मोहि देखाव कुठारू | चहत उडावत फूँकि पहारू ||

iii. कवि बादल से फुहार, रिमझिम या बरसने के स्थान पर 'गरजने' के लिए कहते हैं, क्यों ?

iv. फागुन में ऐसा क्या होता है, जो बाकी ऋतुओं से भिन्न होता है ? लिखिए ।

v. गोपियों के अनुसार राजा का धर्म क्या होना चाहिए ?

**प्रश्न-11 दिए गए प्रश्नों में से किसी एक का सही उत्तर लिखिए-**

**(4x1=4)**

i. भोलानाथ और उसके साथियों के खेल और खेलने की सामग्री आपके खेल और खेलने की सामग्री से किस प्रकार भिन्न है ?

ii. रानी एलिजाबेथ के दरजी की परेशानी का क्या कारण था ? उसकी परेशानी को आप किस तरह तर्कसंगत ठहराएंगे ?

**( खंड - घ )**

**प्रश्न -12 दिए गए संकेत-बिन्दुओं के आधार पर किसी एक विषय पर 200 – 250 शब्दों में निबंध लिखिए –**

**(10x1=10)**

1. राष्ट्र-निर्माण एवं नारी

संकेत-बिंदु :- भूमिका, भारतीय नारी के गुण, ऐतिहासिक पृष्ठ-भूमि, वर्तमान युग में नारी, राष्ट्र-निर्माण में नारी

2. युवाओं में नशे की प्रवृत्ति

संकेत-बिंदु :- भूमिका, नशे का स्वरूप, हानियाँ, बचने के उपाय, उपसंहार

3. भाग्य और कर्तव्य

संकेत-बिंदु :- भूमिका, कर्तव्य से भाग्य का निर्माण, आलसी असफल, अवसर के अनुकूल परिश्रम, उपसंहार

**प्रश्न -13** आपके क्षेत्र के हिंदी समाचार-पत्र के मुख्य संपादक को पत्र लिखिए जिसमें खाद्य वस्तुओं में मिलावट के बारे में जनता और प्रशासन को अपने दायित्व का निर्वहन करने के लिए प्रेरित किया गया हो । **(5x1=5)**

**अथवा**

आपने अपने विद्यालय में वृक्षारोपण समारोह का आयोजन करवाया और आपकी इसमें सक्रिय भागीदारी रही । इस समारोह का अनुभव बताते हुए अपने छोटे भाई को पत्र लिखें ।

**प्रश्न -14** आपने मोबाइल का नया शोरूम खोला है, ग्राहकों को आकर्षित करते हुए 25-50 शब्दों का एक विज्ञापन बनाइये । **(5x1=5)**

**अथवा**

आपके विद्यालय में हिंदी अध्यापक का एक पद रिक्त है । समाचार-पत्र में प्रकाशित करने के लिए एक विज्ञापन बनाइये ।

**ATOMIC ENERGY EDUCATION SOCIETY**  
**PERIODIC TEST – II (2018-19)**

**CLASS : X**

**DATE OF EXAM: 01-10-18**

**TIME: 3 HOURS**

**SUBJECT: MATHEMATICS**

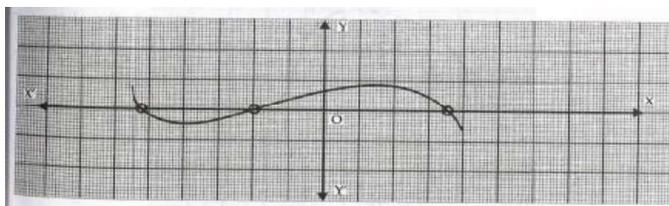
**MARKS: 80**

**General Instructions:**

- (i) All questions are compulsory.
- (ii) The question paper consists of **30** questions divided into four sections **A, B, C** and **D**.
- (iii) Section **A** contains **6** questions of **1** mark each.  
Section **B** contains **6** questions of **2** marks each.  
Section **C** contains **10** questions of **3** marks each.  
Section **D** contains **8** questions of **4** marks each.
- (iv) There is no overall choice. However, an internal choice has been provided in four questions of 3 marks each and two questions of 4 mark each. You have to attempt only one of the alternatives in all such questions.
- (v) Use of **calculators** is not permitted.

**SECTION – A**

- 1. The decimal expansion of the rational number  $\frac{63}{2^4 \times 5^3}$  will terminate after how many decimal places? 1
- 2. Given that  $\text{LCM}(91, 26) = 182$ , then find  $\text{HCF}(91, 26)$  1
- 3. If  $(x + a)$  is a factor of  $2x^2 + 2ax + 5x + 10$ , find  $a$ . 1
- 4. Write the number of zeroes of the polynomial  $y = f(x)$  whose graph is given in the figure. 1



- 5. How many solutions does the pair of linear equations :  $x+4y - 8 = 0, 3x + 12y = 24$  have? 1
- 6. Find the next term of the A.P.  $\sqrt{2}, \sqrt{8}, \sqrt{18}...$  1

### SECTION – B

7. Find the value of  $k$  for which the roots of the quadratic equation  $kx^2 - 10x + 5 = 0$  are equal. 2
8. Solve the quadratic equation  $2x^2 + 4x - 8 = 0$  2
9. For what value of  $p$ , the points  $(-5, 1)$ ,  $(1, p)$  and  $(4, -2)$  are collinear? 2
10. PQR is an isosceles triangle with  $QP=QR$ . If  $PR^2 = 2QR^2$ , prove that  $\Delta PQR$  is right angled. 2
11. A 20 m long vertical pole casts a shadow 10 m long on the ground. At the same time a tower casts a shadow 50 m long on the ground. Find the height of the tower. 2
12. If areas of two similar triangles are in the ratio 25:64, write the ratio of their corresponding sides. 2

### SECTION – C

13. The sum of 4<sup>th</sup> and 8<sup>th</sup> terms of an A.P is 37 and the sum of 6<sup>th</sup> and 12<sup>th</sup> terms is 46. Find the first term of the A.P. 3
14. Solve for  $x$  :  $3a^2x^2 + 8abx + 4b^2 = 0$ . 3  
OR  
Solve for  $x$ :  $\frac{1}{x} - \frac{1}{x-3} = \frac{4}{3}$  ;  $x \neq 0, 3$
15. Determine the sum of all multiples of 9 lying between 100 and 200. 3  
OR  
Find the sum of first 20 terms of an A.P whose  $n$ th term is  $4n - 1$ .
16. 4 men and 6 boys can finish a piece of work in 5 days while 3 men and 4 boys can finish it in 7 days. Find the time taken by 1 man alone or by 1 boy alone. 3
17. Find the greatest number of 5 digits exactly divisible by 12, 15 and 36. 3
18. ABC is a right triangle, right angled at A, and D is the mid-point of AB. Prove that  $BC^2 = CD^2 + 3BD^2$ . 3

OR

E is a point on the side AD produced of a parallelogram ABCD and BE intersects CD at F. Show that  $\Delta ABE$  is similar to  $\Delta CFB$ .

19. A charity trust decided to build an anti-disaster rectangular hall having a carpet area of 210 sq.m. If the length is 1 more than twice its breadth, construct the quadratic Equation to solve for the length and breadth? What value do you imbibe from this act? 3
20. If the polynomial  $4x^4 + 6x^3 + 13x^2 + 20x + 7$  is divided by another polynomial  $3x^2 + 4x + 1$  then the remainder come out to be  $ax + b$ , find 'a' and 'b'. 3

OR

Find the value for K for which  $x^4 + 10x^3 + 25x^2 + 15x + K$  exactly divisible by  $x + 7$



**ATOMIC ENERGY EDUCATION SOCIETY  
PERIODIC TEST – II (2018-19)**

**CLASS – X  
SUBJECT: SCIENCE**

**DATE OF EXAM: 25-09-18**

**TIME – 3 HOURS  
MARKS – 80**

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**General Instructions:**

- (i) The question paper comprises two sections, A and B. You are to attempt both these sections.
- (ii) All questions are compulsory.
- (iii) All questions of Section-A and B are to be attempted separately.
- (iv) There is an internal choice in three questions of three marks each, two questions of five marks each and one question of two marks each.
- (v) Question numbers 1 and 2 in Section-A are one mark question. They are to be answered in one word or in one sentence.
- (vi) Question numbers 3 to 5 in Section- A are two marks questions. These are to be answered in 30 words each.
- (vii) Question numbers 6 to 15 in Section-A are three marks questions. These are to be answered in about 50 words each.
- (viii) Question numbers 16 to 21 in Section-A are 5 marks questions. These are to be answered in 70 words each.
- (ix) Question numbers 22 to 27 in Section- B are based on practical skills. Each question is a two marks question. These are to be answered in brief.

**Section – A**

1. What is synapse? 1
2. What is the role of saliva in the digestion of food? 1
3. What is redox reaction? Identify the substance oxidised and reduced in the following reactions: 2  
$$\text{MnO}_2 + 4\text{HCl} \longrightarrow \text{MnCl}_2 + 2\text{H}_2\text{O} + \text{Cl}_2$$
4. How are ammeters and voltmeters connected in a circuit? What do they help us to measure? 2
5. Why does a compass needle get deflected when brought near a bar magnet? 2
6. (a) How does a solenoid behave like a magnet? 3  
(b) When is the force experienced by a current-carrying conductor placed in A magnetic field largest?
7. (a) What is the total resistance of n resistors each of 'R' connected in: 3  
(i) Series (ii) Parallel  
(b) Calculate the resultant resistance of 3 resistors 3 Ω, 4 Ω and 12 Ω connected in parallel.

**(OR)**

- (a) State Joule's law of heating and write the required equation.
- (b) Define electric power and state its unit. What is meant by 1 Kwh.

8. In electrolysis of water , 3  
 (a) Name the gas collected at the cathode and anode.  
 (b) Why is the volume of gas collected at one electrode double the other?  
 (c) Why is a few drops of dil  $\text{H}_2\text{SO}_4$  added to the water?
9. (a) What is universal indicator? 3  
 (b) Write the chemical equation involved in the preparation of sodium hydroxide. Name the process.
10. Sumit's father has been advised by a Doctor to reduce his sugar intake. 3  
 (a) Name the disease he is suffering from.  
 (b) Name the hormone whose deficiency causes it.  
 (c) Identify the glands that secretes it and mention the function of this hormone.
- (OR)**
- (a) What is a reflex arc?  
 (b) Why is it advised to use iodised salt in our diet?
11. Draw a diagram of human excretory system and label kidneys, ureters, bladder and urethra on it. 3
12. An object is placed at a distance of 10 cm from a convex mirror of focal length 15 cm. Find the position and nature of the image. 3
13. (a) What are alloys? 3  
 (b) Arrange these metals in the decreasing order of reactivity: Na, K, Cu, Ag  
 (c) How is zinc extracted from its ore? Give chemical equation of the reaction.
- (Or)**
- (a) Differentiate between roasting and calcination.  
 (b) How is sodium obtained from molten sodium chloride?
14. What are the male and female gonads in human beings? State any two functions of each of them. 3
15. (a) Classify the following movements as tropic or nastic: 3  
 (i) opening of flower (ii) roots moving downwards  
 (iii) shoots moving towards light (iv) Twirling of a tendril  
 (b) Difference between cerebrum and cerebellum.
16. (a) If the image formed by a spherical mirror for all positions of the object placed in front of it is always erect and diminished, what type of mirror is it? Draw a labelled ray diagram to support your answer. 5  
 (b) Give one point difference between real and virtual image.  
 (c) Light enters from air to glass having refractive index 1.5. What is the speed of light in the glass?  
 (Given, speed of light in vacuum is  $3 \times 10^8$  m/s)
17. (a) What will be the action of gas on dry litmus paper? 5  
 (b) Name the constituents of the following alloys:  
 (i) Brass (ii) Solder  
 (c) Why do ionic compounds have high melting and boiling points?  
 (d) What are the ions present in  $\text{Na}_2\text{O}$ ?
- (OR)**
- (a) What is rancidity?  
 (b) Write a balanced chemical equation and mention the state of substance for

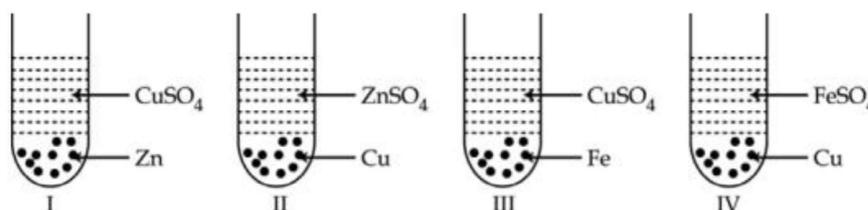
the following chemical reaction:

Solutions of Barium chloride and sodium sulphate in water react to give insoluble barium sulphate and the solution of sodium chloride.

- (c) Why do we apply paint on iron articles? 3+
- (d) Balance the following chemical equations: 2
- (i)  $\text{KBr (aq)} + \text{BaI}_2 \text{ (aq)} \longrightarrow \text{KI (aq)} + \text{BaBr}_2 \text{ (s)}$
- (ii)  $\text{Fe (s)} + \text{H}_2\text{O (g)} \longrightarrow \text{Fe}_3\text{O}_4 \text{ (s)} + \text{H}_2 \text{ (g)}$
18. (a) What is vegetative propagation? Give its advantage. 3+
- (b) With an example define the term Regeneration. 2
19. (a) State Fleming's Left-Hand Rule. 5
- (b) Write the principle of working of an electric motor.
- (c) Write the function of the following parts of an electric motor:
- (i) Armature (ii) Split ring (iii) Brushes
20. (a) What happens when chlorine is passed over slaked lime at 313 K? 5
- Write chemical equation of the reaction involved and state its two uses of the product obtained.
- (b) How will you prepare Plaster of Paris from Gypsum?
- Give the chemical equation for the reaction.
21. (a) Where does digestion of fat take place in our body? 5
- (b) Name the intermediate and the end products of glucose breakdown in aerobic respiration.
- (c) Which chamber of human heart receives oxygenated blood? Explain how oxygenated blood from this chamber is sent to all parts of the body.
- (Or)
- (a) What is photosynthesis? Write the chemical equation involved in it.
- (b) List three events that occur during the process of photosynthesis.

### Section - B

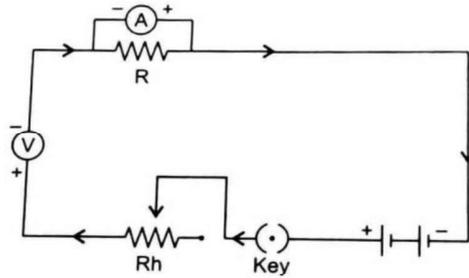
22. In an experiment to study the properties of acetic acid, answer the following: 2
- (i) What happens when some water is added to the test tube containing acetic acid and shaken vigorously?
- (ii) Blue and red litmus papers are put in the test tube containing an acid one after the other.
23. A student took solutions of  $\text{CuSO}_4$ ,  $\text{ZnSO}_4$  and  $\text{FeSO}_4$  in four test tubes and dropped pieces of zinc, copper and iron in each of them separately as shown below in the figure: 2



In which of the above shown test tubes, change in colour of the solution would be observed? Why?

24. List the steps of preparation of temporary mount of a leaf peel to observe stomata. 2

25. (a) What type of asexual reproduction is found in Amoeba and yeast? 2  
 (b) Draw the various stages of asexual reproduction shown by yeast.
26. To study the dependence of potential difference (V) on current (I) flowing 2  
 across a resistor (R), a student set a circuit diagram but he did not succeed.



- (i) Name the components which are in correct position in the circuit diagram.  
 (ii) Name the components which are not in correct position in the circuit diagram.
27. A student places a candle flame at a distance of about 60 cm from a concave 2  
 mirror of focal length 10 cm and focuses the image of the flame on a screen. After that he gradually moves the flame towards the mirror and each time focuses the image on the screen.
- (a) In which direction-toward or away from the mirror, does he move the screen to focus the image?  
 (b) How does the size of the image change?  
 (c) How does the intensity of the image change as the flame moves towards the mirror?  
 (d) Approximately for what distance between the flame and the mirror, the image formed on the screen is inverted and of the same size?

**(OR)**

A ray of light travelling in air strikes the surface of glass at some definite acute angle and finally emerges out of it. What conclusions can be drawn about:

- (a) Angle of incidence and angle of emergence?  
 (b) Angle of incidence and angle of refraction?