ATOMIC ENERGY CENTRAL SCHOOL NO. 4 RAWATBHATA

CONFIDENCE EXAMINATION (2018-19)

Time : 3 hrs **Class : XI, English** **Max. Marks : 80**

General Instructions

1) This question paper is divided into three sections-A, B, C & D.
2) All sections are compulsory.
3) Marks are indicated against each question.
4) Strictly adhere to the given word limit.
5) Write the question numbers carefully.
6) Write your name, Roll number, class & section on the right top corner of your question paper.

Section A Reading [20 Marks]

Q1. Read the passage below and answer the questions that follow: (12)

1. In life we sometimes have disagreements with people. It could be with your partner, with your boss, with your parents, or with a friend. When this happens, the important thing is to try not to let a calm discussion turn into a heated argument. But of course this is easier said than done.

2. The first thing I would say is that the way you begin the conversation is very important. Imagine you are a student and you share a flat with another student who you think isn't doing her share of the housework. If you say, 'Look, you never do your share of the housework. What are we going to do about it?', the discussion will very soon turn into an argument. It's much more constructive to say something like, 'I think we'd better have another look about how we divide up the housework. Maybe there's a better way of doing it.'

3. My second piece of advice is simple. If you're the person who is in the wrong, just admit it! This is the easiest and best way to avoid an argument. Just apologize to your flatmate, your parents, or your husband, and move on. The other person will have more respect for you in the future if you do that.

4. The next tip is don't exaggerate. Try not to say things like 'You always come home late when my mother comes to dinner' when perhaps this has only happened twice, or 'You never remember to buy the toothpaste." This will just make the other person think you're being unreasonable, and will probably make him or her stop listening to your arguments.

5. Sometimes we just can't avoid a discussion turning into an argument. But if you do start arguing with someone, it is important to keep things under control and there are ways to do this.

6. The most important thing is don't raise your voice. Raising your voice will just make the other person lose their temper too. If you find yourself raising your voice, stop for a moment and take a deep breath. Say 'I'm sorry I shouted, but this is very important to me', and continue calmly. If you can talk calmly and quietly, you'll find your partner will be more ready to think about what you are saying.

7. It is also very important to stick to the point. Try to keep to the topic you are talking about. Don't bring up old arguments, or try to bring in other' issues. Just concentrate on solving the one problem you are having, and leave the other things for another time. So, for example, if you're arguing about the housework, don't start talking about mobile phone bills as well.

8. And my final tip is that if necessary call 'Time out', like in a sports match. If you think that an argument is getting out of control, then you can say-to the other person, Listen, I'd rather talk about this tomorrow when we've both calmed down'. You can then continue the discussion the next day when perhaps both of you are feeling less tense and angry. That way there is much more chance that you will be able to reach an agreement. You'll also probably find that the problem is much easier to solve when you've both had a good night's sleep. Well, those are my tips.

10. But I want to say one last important thing. Some people think that arguing is always bad. This is not true. Conflict is a normal part of life, and dealing with conflict is an important part of any relationship, whether it's three people sharing a flat, a married couple, or just two good friends. If you don't learn to argue

properly, then when a real problem comes along, you won't be prepared to face it together. Think of the smaller arguments as training sessions. Learn how to argue cleanly and fairly. It will help your relationship become stronger and last longer.

On the basis of your understanding of the above passage, answer each of the following questions by selecting the most appropriate option from the given ones (1 × 12)

(a) _____ is easy to suggest but quite difficult to do.

(i) To have disagreements with people.

(ii) Not to let a peaceful discussion change into a heated argument.

(iii) "Never raise you voice"

(iv) To have heated argument with friends.

(b) In case we are wrong we should _____ to avoid argument.

(i) flatmate (ii) exaggerate (iii) respect (iv) apologise

(c) The second paragraph suggests when we _____ others, it leads to argument.

(i) share the work with (ii) accuse (iii) divide the work anew with (iv) only (i) & (ii)

(d) _____ can help strengthen relationships.

(i) Learning to argue clearly, (ii) Learning to avoid arguments, (iii) Learning to argue fairly, (iv) Only (i) and (iii)

Answer the following questions briefly:

(e) What happens if a complaint is exaggerated?

(f) Name two activities that to help to keep arguments under control.

(g) Raising our voice in an argument is not good. Why?

(h) What happens if we don't learn to argue properly?

(i) How does 'Time Out' help' in agreement?

(j) When is your partner in an argument more ready to think about your point of view?

(k) Find words/phrases from the passage which mean the OPPOSITE as each of the following

(i) Surely (Para-4) (ii) Initial (Para 8)

Q.2 Read the following passage and answer the questions that follow: (8 Marks)

1. The tests of life are its plus factors. Overcoming illness and suffering is a plus factor for it moulds character. Steel is iron plus fire, soil is rock plus heat. So let's include the plus factor in our lives.

2. Sometimes the plus factor is more readily seen by the simple hearted. Myers tells the story of a mother who brought into her home - as a companion to her own son a little boy who happened to have a hunch back. She had warned her son to be careful, not to refer to his disability. The boys were playing and after a few minutes she overheard her son say to his companion " Do you know what you have got on your back ?" The little boy was embarrassed, but before he could reply, his playmate continued " It is the box in which your wings are, and some day God is going to cut it open and then you will fly away and be an angel."

3. Often it takes a third eye or a change in focus, to see the plus factor. Walking along the corridors of a hospital recently where patients were struggling with fear of pain and tests, I was perturbed. What gave me a fresh perspective were the sayings put up everywhere, intended to uplift. One saying made me conscious of the beauty of the universe in the midst of pain, suffering and struggle. The other saying assured me that God was with me when 1 was in deep water and that no troubles would overwhelm me.

4. The import of those sayings also made me aware of the nector springs that flow into people's lives when they touch rock bottom or are lonely or guilt ridden. The nector springs make recovery possible, and they bring peace and patience in the midst of negative forces.

5. The forces of death and destruction are not so much physical as they are psychic and psychological. When malice, hatred and hard heartedness prevail, they get channelled as forces of destruction. Where openness, peace and good heartedness prevail, the forces of life gush forth to regenerate hope and joy. The life force is triumphant when love overcomes fear. Both fear and love are deep mysteries, but the effect of love is to

build, whereas fear tends to destroy. Love is generally the plus factor that helps build character. It creates bonds and its reach is infinite.

6. It is true there is no shortage of destructive elements - forces and people who seek to destroy others and in the process destroy themselves -- but at the same time there are signs of love and life everywhere that are constantly enabling us to overcome setbacks. Solet's not look at gloom and doom - let us seek positivity and happiness. For it is when you seek that you will find what is waiting to be discovered.

(a) On the basis of your reading of the above passage, make notes on it in points only, using abbreviations, wherever necessary. Also suggest a suitable title. (5 Marks)

(b) Write a summary of the passage in not more than 80 words, using the notes you have made. (3 Marks)

Section B Writing and Grammar [20 Marks]

Q3. You are the CCA Captain. Your school is going to organise the Annual Day on February 28, 2019. Prepare a Notice to be displayed on the Students' Notice Board giving information about the necessary details. Do not exceed the limit of 50 words. (4)

Or

Your school is going to organise a Blood Donation Camp. Design a poster in order to spread awareness and to seek maximum participation of students. (50 words)

4. You are Deepak/Deepika 14, Mall Road Kochi. You saw an advertisement put up by Excellent coaching centre which provides coaching for Medical Entrance Exam. As you are interested in enrolling yourself, write a letter in 120-150 words to the Director; Excellent coaching centre, Chennai requesting him to inform you about the necessary details. (6)

Or

Last month you purchased a TV set from Ram Electronics, Pushp Vihar, Ambala. It is not working properly (imagine a few defects). Write a letter of complaint in 120-150 words to the Manager asking for repair or replacement. You are Amar/Amrita, M 114, Model Town, Ambala.

5. Mobile phones have influenced children in a big way. Write an article in 150-200 words on how they have affected the younger generation. You are Ekta/Eklavya. (10)

Or

Cultural society of Sunshine Public School, Nellore organised an adult literacy camp in its neighbourhood. Write a report in 150-200 words on the camp for your school newsletter. You are PV Sumitha / PV Sumith.

Section C Grammar [10 Marks]

6. The following passage has not been edited. There is one error in each line. Underline the error and write the correct word in front of it in your answer sheet: (½ × 8 = 4)

	Incorrect	Correct
The next day during an break	(a) _____	_____
When all the teacher and students	(b) _____	_____
Was eating their snacks, the mother	(c) _____	_____
Left the school building hurrily	(d) _____	_____
The boy saw him walking	(e) _____	_____
quickly from of the school gate	(f) _____	_____
When he was drank water after	(g) _____	_____
His meal and wonder where his	(h) _____	_____
Mother was going.		

7. Complete the following sentences by filling in the correct form of the verb.

In the last hundred years, travelling (a) _____ (become) much easier and very comfortable. In the 19th century, it (b) _____ (take) two or three days to cross North America by a covered wagon. The trip (c) _____ (be) very rough and often dangerous. Things (d) _____ (change) a great deal in the last hundred and fifty years. Now you can fly from New York to Los Angeles in a matter of hours**. (1 × 4 = 4)**

8. Rearrange the following words or phrases to make meaningful sentences: (1 × 2 = 2)

(a) the / on / forests / the / industry / oil / depends

(b) do / get / the / forests / from / what / we products / ?

Section D Literature [30 Marks]

9. Read the extract given below and answer the questions that follow: (1 × 3 = 3)

The sea holiday
Was her past, mine is her laughter. Both wry
With the laboured ease of loss.

(a) Which sea holiday is referred to here?

(b) What was poetess past?

(c) Why is the poetess nostalgic about her mother's laughter?

Or

Father and son, we both must live
On the same globe and the same land,
He speaks: I cannot understand
Myself, why anger grow from grief.
We each put out an empty hand,
Longing for something to forgive.

(a) Why must father and son live on the same globe and the same land?

(b) Explain : I can not understand myself.

(c) What does 'empty hand' signify?

10. Answer any three of the following questions in 30 to 40 words. (3 × 3 = 9)

(a) What did the child feel when he discovered that he could use his mind according to his own chinking?

(b) "Eternal, I rise impalpable". What gives eternity to rain?

(c) What effect did Tut's demise have on his dynasty?

(d) Bring out the element of irony used in "The Tale of Melon City"?

(e) How does past affect the present? Explain it in the light of the lesson "The Adventure".

11. What social message does the play 'Mother's Day' Convey? How relevant is it in the present day context? (6)

12. Hardships often bring out the best in people. Do you agree? why/why not? 13. Based on your reading of the lesson "The Ailing Planet : The Green Movement's Role", write your views about the topic "Conservation – Need of the hour".

Or

"The school system often curbs individual talents". Discuss the statement with reference to the lesson 'Albert Einstein at School'. (6)

13. Narrate the story in the light of the title "Silk Road".

Or

Narrate the concern of Shahid Agha Ali about the valley of Kashmir in "The Ghat of the Only World". (6)

ATOMIC ENERGY CENTRAL SCHOOL No. 4, RAWATBHATA
CONFIDENCE EXAMINATION – 2018-19
CLASS - XI - PHYSICS

TIME - 3 Hours **Marks-70**

Q.1] What is the angle between two vectors if the ratio of their dot product and the magnitude of cross product is$\sqrt{3}$. 1M

Q.2]The value of G on the surface of the earth is $6.67\times 10^{-11}\,Nm^2kg^{-2}$.What is its on the moon? 1M

Q.3]Why it is difficult to open the door by pushing it or pulling it at the hinges? 1M

Q.4] What is Poisson's ratio? Does it have any unit? 1M

Q.5]State the Carnot theorem. 1M

Q.6]Show that the maximum error in the quotient of two quantities is equal to the sum of their individual fractional errors. 2M

Q.7] Define Displacement & Instantaneous Velocity. 2M

Q.8]Two masses M & m are connected at the two ends of an inextensible string . The string passes over a smooth frictionless pulley. Obtain the acceleration of the masses and the tension in the string. Given M> m.2M

Q.9]State and explain the principle of moments. 2M

Q.10]Derive an expression for the escape velocity of a satellite projected from the surface of the earth. 2M

Q.11]Explain the kinetic interpretation of temperature. 2M

Q.12]Explain why Greenhouse effect is responsible for global warming. 2M

OR

Q.12] Show that in a closed organ pipe the first three harmonics are in the ratio of 1:3:5 2M

Q.13]Draw the following graphs (expected nature only) representing motion of an object under free fall. Neglect air resistance.

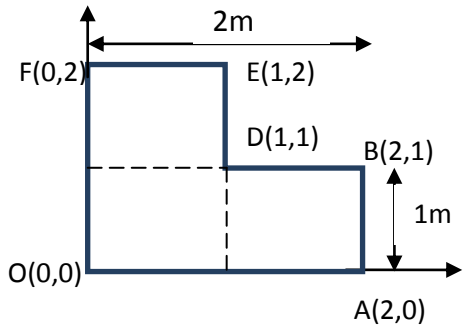
i)Variation of position with respect to time.

ii)Variation of velocity with respect to time.

iii)Variation of acceleration with respect to time. 3M

Q.14]]Rain is falling vertically with a speed of 30 m/s. A woman rides on a bicycle with a speed of 10 m/s in the north to south direction. What is the relative velocity of rain with respect to woman? What is the direction in which she should hold her umbrella to protect herself from the rain? 3M

Q.15]Find the centre of mass of a uniform L-shaped lamina (a thin flat plate) with dimensions as shown in the fig. The mass of lamina is 3 kg. 3M



Q.16]Define acceleration due to gravity. Show that gravity decreases with depths. 3M

Q.17]State and explain Kepler's Law of planetary motion.Name physical quantities which remain conserved during the planetary motion. 3M

Q.18]What is elastic potential energy? Derive an expression for the elastic potential energy of a stretched wire. Prove their elastic energy density is equal to ½ ×stress ×strain. 3M

Q.19]What is capillarity? Derive an expression for the height to which the liquid rises in a capillary tube of radius 'r'. 3M

Q.20] Name the three modes of transfer of heat from one object to other. Also cite one example for each one of them. 3M

Q.21] Show that total energy of a particle executing SHM is directly proportional to the square of amplitude and frequency. Along with graphical representation explain T.E remains constant. 3M

Q.22] Using Laplace formula for speed of sound in air. Explain Why a) Independent to pressure b) Increase with temperature c) Increase with humidity. 3M

Q.23] State parallelogram law of vector addition .Show the resultant of two vectors A & B inclined at an angle θ *is* $R = \sqrt{A^2 + B^2 + 2AB\cos\theta}$ 3M

Q.24] What is angle of banking of roads? Why it is essential? Derive an equation for the angle of banking ignoring friction between the tyres & the road. 3M

OR

Q.24] Define radius of gyration? Derive an expression for the radius of a body consisting of n particles above an axis of rotation. 3M

Q.25] Discuss the motion of a body in a vertical circle. Find the expression for the minimum velocity at the lowest and the highest points while looping the loop. 5M

OR

Q.25] Define angle of friction and angle of repose. Show that both are numerically equal. 5M

Q.26]Define elastic collision and discuss it for two bodies in one dimension. Calculate the velocities of bodies after collision. Discuss special cases also. 5M

OR

Q.26]A light string is wound round a cylinder and carries a mass tied to it at the free end. When the mass is released, calculate: (i) the linear acceleration of the descending mass, (ii)the angular acceleration of the cylinder and (iii)the tension in the string. Show that the acceleration of the mass is less than g. 5M

Q.27] Define Young's Modulus, Bulk modulus and modulus of rigidity. Write mathematical expressions for these moduli. What is compressibility? 5M

OR

Q.27]

a) What is Doppler Effect in sound?

b)Derive an apparent expression for the apparent frequency when a source moves towards a stationary observer.

c)A policeman on duty detects a drop of 15% in the pitch of the horn of a motor use as crones him. Calculate the speed of air .The speed of velocity of sound is 330 m/s. 5M

Atomic Energy Central School No. 4, Rawatbhata
Confidence Examination – (2018-19)

Class- XI M.M- 70

Subject- Chemistry Time- 3 hrs

Note-(i) Attempt all the questions.

(ii) Q 1 to 5 is very short answer questions and carries 1 mark each.

(iii) Q 6 to 12 is short answer questions and carries 2 marks each.

(iv) Q 13 to 24 is also short answer questions and carries 3 marks each.

(v) Q 24 to 27 is long answer questions and carries 5 marks each.

1. State law of multiple proportions. 1
2. Write electronic configuration of Cu^+ ion. 1
3. Why the isotopes of an element do not assigned any place in modern periodic table? 1
4. Write the relation between Kc and Kp. 1
5. What is BOD? 1
6. If 20g of $CaCO_3$ is treated with 20g of HCl, what mass of CO_2 will be formed? The chemical reaction is - $CaCO_3 + 2HCl \longrightarrow CaCl_2 + H_2O + CO_2$(Atomic mass of Ca=40, C=12, O=16, H=1 and Cl=35.5) 2
7. Define the following – (i) Mole fraction (ii) Molarity 2
8. (i) How many electrons can be accommodated at most in n=4, s=+1/2 2
   (ii) State Aufbau principle.
9. What is the concentration of each of the substances at equilibrium when the initial concentration of ICl was 0.78M? $2ICl \rightleftharpoons I_2+Cl_2$: Kc = 0.14 2

   OR

   pH of a soft drink is 3.82. Calculate hydronium ion concentration in the drink.
10. i)Carbon monoxide is more dangerous than carbon dioxide. Why?
    ii) Name the acids responsible for acid rain. 2
11. Calculate wavelength, wave number and frequency of a photon having energy equal to 4.79×10^{-19} J. Given that h= 6.6×10^{-34} JS, C= 3.0×10^{8} ms^{-1} 2
12. Explain the following giving suitable reason- 2
    (i) Which one either F or Cl has lowervalue of first ionization enthalpy.
    (ii) Which one either O or F has large negative value of electron gain enthalpy?
13. Write about the following terms-
    (i) Internal energy (ii) Enthalpy of combustion(iii) Bond enthalpy 3
14. The molar heat of formation of $NH_4NO_{3(s)}$ is -365.5kJ, $N_2O_{(g)}$ is 81.5kJ and $H_2O_{(l)}$ is -285.8kJ at 25'C and 1 atm pressure. Calculate ΔH and ΔU for the reaction- $NH_4NO_{3(s)} \rightarrow N_2O_{(g)} + 2H_2O_{(l)}$ 3
15. State Le-Chatlier's principle.
    Explain the effect of (i) Temperature and (ii) Pressure on the following equilibrium reaction:
    $H_{2(g)} + I_{2(g)} \rightleftharpoons 2HI_{(g)}$; $\Delta H = -x$ kJ 3
16. Balance the given redox reaction by ion-electron method:
    $Cr_2O_7^{2-} + SO_2 \rightarrow Cr^{3+} + HSO_4^-$(acidic medium) 3
17. (i) What are ortho and para hydrogen? (ii) Write the chemicalswhich are responsible for temporary hardness of water. (iii) Draw the structure of H_2O_2 in gas phase. 3
18. Explain the manufacturing of sodium carbonate by Solvey ammonia process. Write the reactionsinvolved in the process. 3
19. Give reason- 3
    (i) Sodium metal dissolves in liquid ammonia gives blue colour.
    (ii) Be and Mg does not give any colour to the flame.
    (iii) Li_2CO_3 decomposes at lower temperature on heating.

20. A sample of 0.50g of an organic compound was treated according to Kjeldahl's method. The ammonia evolved was absorbed in 50ml of 0.5M H_2SO_4. The residual acid required 60ml of 0.5M solution of NaOH for neutralization. Find the percentage composition of nitrogen in the compound. 3

21. (i) Write the functional isomer of C_2H_5OH.
(ii) Write IUPAC name of: a $CH\equiv C-CH=CH-CH=CH_2$ b. $CH_3-CH_2-CH_2-CH_2-COOH$ 3

OR

(i) Write IUPAC name of $(CH_3)_2CHCHO$
(ii) What is resonance effect? Explain positive resonance effect with an example.

22. What are conformations? Draw the conformers of ethane. What is dihedral angle? 3

23. Write about the following: i) F center ii) Schottky defect iii) Doping 3

24. Give reasons: i) N_2 is less reactive gas ii) Ammonia is more basic than phosphine iii) H_3PO_3 is dibasic acid3

25. (i) Although geometries of NH_3 and H_2O molecules are distorted tetrahedral but bond angle in water is less than that of ammonia. Explain.
(ii) Write electronic configuration of O_2molecule.Compare the stability ofO_2, O_2^+ and O_2^-molecular ions and justify your answer. 5

OR

(i) Although both CO_2 and H_2O are triatomic molecules, the shape of H_2O molecule is bent while that of CO_2 is linear. Explain.
(ii) What is meant by hybridization? Explain the geometry of methane molecule with the help of hybridization.

26. (i) Write a method to prepare diborane and draw its structure. (ii) Complete the following reactions:
a. $B_2H_6 + H_2O \rightarrow ?$
b. $HCOOH \xrightarrow[\text{Conc } H2SO4]{373K} ?$
c. $SiO_2 + NaOH \rightarrow ?$ 5

. OR

(i) What is general formula of silicones. Write a method to prepare linear silicone
(ii) Give reason: a. Lead (II) chloride reacts with Cl_2 to give $PbCl_4$ b. Graphite is used as lubricant c. Boron trifluoride is less acidic than boron trichloride

27. (i) Write about following reactions: a. Wurtz reaction b. Friedel-Crafts alkylation reaction.
(ii) Write chemical reaction for the following conversions:
a. 2-Bromopropane into 1-Bromopropane b. Benzene into chlorobenzene c. Ethyne into propyne 5

. OR

(i) Write about the following:a. Peroxide effect b. β-elemination c. Huckel rule.
(ii) a. Write a chemical reaction to distinguish ethane and ehtene. b. What product is formed when nitrobenzene is furthernitrated?

Atomic Energy Central School No.4 Rawatbhata

Confidence Examination (2018– 19)

Time : 3 hours **Class- XI, Mathematics** **M.M: 100**

General Instructions:

(i) All questions are compulsory.

(ii) This question paper contains 29 questions.

(iii)Question 1- 4 in Section A are very short-answer type questions carrying 1 mark each.

(iv) Question 5-12 in Section B are short-answer type questions carrying 2 marks each.

(v) Question 13-23 in Section C are long-answer-I type questions carrying 4 marks each.

(vi) Question 24-29 in Section D are long-answer-II type questions carrying 6 marks each.

Section – A (1 x 4 = 4)

1. If the set A has 5 elements how many elements does P(A) have?
2. Show that $A \times B \neq B \times A$ in general.
3. Justify that the sentence "6 has three prime factors." is a statement or not ?

Or

Write the following statement sing if-then:

"It is necessary to have a password to log on to the server."

4. Name the octant or plane in which (4,0,7) lies.

Section – B (2 x 8 = 16)

5. If there are n- observations $x_1, x_2, x_3 \ldots\ldots\ldots\ldots\ldots\ldots x_n$ and their mean is $\bar{x}$, show that if each observation is multiplied with 'a', their new mean will become $a\bar{x}$.
6. Write the contrapositive and converse of the statement " If my grandmother had wheels , she would be a bus."
7. There are 200 individuals with skin disorders. 120 had been exposed to chemical C_1, 50 to chemical C_2 and 30 to both C_1 and C_2. Find the no. of people that are exposed to i) Chemical C_1 but not C_2 ii) C_2 but not C_1 iii)Neither to chemical C_1 nor C_2.
8. 3 books on Mathematics and 4 books on Economics are to be kept together. Find the probability that all the 3 books on Mathematics are together.
9. Draw the graph of the function and write the domain and range: f(x) = |x-2| + |x+2|

Or

Draw the graph of the function and write the domain and range:

$$F(x)=\begin{cases}1-x, if\ x<0\\ 0, if\ x=0.\\ 1+x, if\ x>0\end{cases}$$

10. Find the equation of a circle which passes through origin and creates of intercepts 2 and 4 units on x and y axis respectively.

Or

Find the centre and the radius of the circle $x^2 + y^2 - 4x + 6y = 12$

11. The difference between any two consecutive angles of a polygon is 5^0, if the smallest angle is 120^0, find the number of sides of polygon.

12. If $x + iy = \sqrt{\frac{a+ib}{p+iq}}$, then prove that $(x^2 + y^2)^2 = \frac{a^2+b^2}{p^2+q^2}$.

Section – C (4 x 11 = 44)

13. Find the domain and range of $\frac{1}{\sqrt{9-x^2}}$

14. Solve the equation for x : $\sqrt{3}\cos x + \sin x = \sqrt{2}$.

OR

If α and β are the solutions for the equation $a\tan\theta + b\sec\theta = c$,

then show that $\tan(\alpha + \beta) = \frac{2ac}{a^2-c^2}$

15. Prove by the principle of induction $1^2 + 2^2 + 3^2 ..... + n^2 = \frac{n(n+1)(2n+1)}{6}$ is true for all $n \in \mathbb{N}$.

16. Find the modulus and argument of $\frac{1+7i}{(2-i)^2}$ and express it in polar form.

17. A committee of 7 has to be formed from 9 boys and 4 girls. In how many ways can it be done if the committee consists of

i. exactly 3 girls? ii. at least 3 girls? iii. at the most 3 girls?

18. Find the sum of first n terms of the sequence 0.7, 0.77, 0.777…..

19. Find the distance of the point (3,-1) from the line 2x+3y-4=0 measured along the line x+2y=7.

20. A rod AB of length 15cm rests between two coordinates axes in such a way that the end point A lies on x axis and end point B lies on y axis A point p(x,y) is taken on the rod such that AP=6cm. Prove that the locus of P is an ellipse.

OR

Find the equation of ellipse with origin as centre, foci on y-axis , passing through the point (6,4) and eccentricity ¾.

21. A group of students decided to buy a tape recorder in the range of Rs 170 to Rs 195. At the last moment two students backed out of the decision and the remaining students had to pay one rupee each more than they had planned. What was the price of tape recorder, if the students paid equal share.

OR

Solve the system of inequalities graphically $2x + y \geq 4$, $x + y \leq 3$, $2x - 3y \leq 6$.

22. Show that the points A(0,1,2) B(2,-1,3) and C(1,-3,1) are vertices of an isosceles right angled triangle.

23. A bag contains 30 tickets numbered 1 to 30. Five tickets are drawn and are arranged in ascending order. Find the probability that the third number is 20.

Section –D (6 x 6 = 36)

24. a) Evaluate $\lim_{x\to 0} \frac{\sin(2+x)-\sin(2-x)}{x}$.

b) Find the derivative of cosx with respect to x using first principle of differentiation.

25. If first p and q terms of an AP are x and y respectively, prove that the sum of first p + q terms is $\frac{p+q}{2}\left[x+y+\frac{x-y}{p-q}\right]$.

OR

Show that $\frac{1.2^2+2.3^2+3.4^2+\cdots\ldots\ldots\ldots\ldots+n(n+1)^2}{1^2.2+2^2.3+3^2.4+\cdots\ldots\ldots\ldots\ldots+n^2(n+1)} = \frac{3n+5}{3n+1}$

26. Prove that $\cos^4\left(\frac{\pi}{8}\right)+\cos^4\left(\frac{3\pi}{8}\right)+\cos^4\left(\frac{5\pi}{8}\right)+\cos^4\left(\frac{7\pi}{8}\right)=\frac{3}{2}$.

27. Find the coefficient of x^5 in the expansion of $(1+2x)^6(1-x)^7$.

OR

If the coefficients of three consecutive terms in the binomial expansion of $(1+x)^n$ be 45, 120 and 210 , find the value of n.

28. Find the image of the point P(1,2) in the straight line x-3y+4=0 if the line acts as a mirror.

OR

If the three lines whose equations are $y = m_1x + c_1$, $y = m_2x + c_2$, $y = m_3x + c_3$, are concurrent, then prove that $m_1(c_2 - c_3) + m_2(c_3 - c_1) + m_3(c_1 - c_2) = 0$.

29. Find the mean, variance and the standard deviation for the given data.

Class Interval	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Frequency	3	7	12	15	8	3	2

Atomic Energy Central School No 4 Rawatbhata

Confidence Examination (2018-19)

Time: 3 Hrs Class – XI, Biology M.M. 70

General Instruction:-

1) There are a total of 27 questions and five sections in the questions paper. All questions are compulsory.
2) This question paper consists of four sections A, B, C and D. Section 'A' consists of 5 question of one mark each. Section 'B' is of 7 questions of 2 marks each, section 'C' is of 12 questions of 3 marks each and Section 'D' consists of 3 questions of five marks each.
3) There is no overall choice. However an internal choice has been provided in one questions of 2 marks one question of 3 marks and all questions of 5 marks. Attempt only one choice in all such questions.
4) Wherever necessary, the diagrams drawn should be neat and properly labeled.

SECTION 'A'

1. What are lsosomes?
2. Which organism has intranuclear mitosis?
3. Name the conductive tissue responsible for the conduction of water in plants.
4. What will happen to the plant cell if kept in a solution having higher water potential?
5. What is the significance of juxtaglomular apparatus?

SECTIONA "B"

6. Briefly give the contribution of the following scientists in formulating cell theory.
   (i) Rudolf Virchow (ii) Schleiden and Schwann
7. What makes species a basic taxonomic category?
8. (i) What is an enzyme? (ii) Give on example of a proenzyme.
9. What is meant by cellular differentiation?
10. What are vertebrochondrial ribs in human skeleton system?

OR

What are Meissner's corpusles.

11. What are peculiar features that you found in parasitic helminthes?
12. Mention any two metabolic disorders which can be diagnosed only after analysis of urine.

SECTIONA "C"

13. Mention any two special properties of neural tissues.
14. Describe the structure of adipose tissue briefly with the help of diagram.
15. What is meant by cyclosis or cytoplasmic streaming? Write two function of it.
16. Differentiate between symplat and apoplast pathway.
17. Write the function of different proteins. Name their monomeric unit.
18. Write the structural formula of the following:
    (i) Adenine (ii) Cytosine (iii) Guanine

19. Name the secretions of the following glands:

    (i) Pituitary (ii) Thymus (iii) Ovary (iv) Hypothalamus

20. Name the modified roots which help in respiration. Give example.

21. 'Potato is a stem and sweet potato is root'. Justify the statement on the basis of external features.

22. Define Vernalisation. How does it help in flowering in plants?

23. (i) Which part of plant is associated with production of gibbrellin?

    (ii) State two main function of this PGR.

24. (i) What is the sequence of phases in cell cycle?

    (ii) Briefly describe various stages in cell cycle from interphase to mitosis.

    (iii) When does DNA synthesis take place in cell cycle?

    OR

    Give important features of Watson and Crick double helical model of DNA.

SECTIONA "D"

25. (i) Write some example of :

    (a) Mosses (b) Liverworts (iii) Pteridophytes

    (ii) With the help of a table, give a comparative account of all classes of algae.

26. (i) List out the flight adaptations present in birds.

    (ii) Give salient feature of class-Amphibia.

27. What are phytohormones. Give a brief account of their importance in agriculture.

    OR

    Give balance sheet of ATP for aerobic breakdown of one molecule of glucose.

Atomic Energy Central School, No-4, Rawatbhata

Confidence Examination, 2018-19

Class: XI Subject: Computer Science

Time allowed: 3 hours *Maximum Marks: 70*

Instructions:

i) All questions are compulsory.

ii) Please check that this question paper contains 4 printed pages.

iii) Please check that this question paper contains 5 questions.

iv) Please write down the proper serial number and <u>OR Part</u> of the question before attempting it.

Q. No. 1.

(a) Explain the generations (1 to 4) of digital computers in brief. [2]

(b) Compare the FCFS and SJN Process Scheduling techniques.

OR [1]

Compare page and segments in memory management.

(c) Write the name of some inventions who helped in design of digital computer? [1]

(d) Draw and define the process state diagram. [2]

Or

Draw the block diagram of Computer System.

(e) What are the advantages & limitations of computer system? [2]

(f) Define the functions of operating system in brief? [2]

Or

Name the various types of Operating System?

(g) Compare the hardware and software, give classification of software's [2]

Q. No. 2.

(a) Write the following algebraic expression into c++ expressions: [1]

(i) ut +1/2 Ft^2 [1/2]

(ii) $Z=\sqrt{(X^Y+Y^X)}$ [1/2]

(b) Write the output for the following program code: [1]

(i)
```
void main()
{
int a=5,b,c,d;
b=++a*2;
c=b-- + a++;
d=c+--b;
cout<<a<<b<<c<<d;
}
```

(ii) [2]
```
void main()
{ int a[5]={1,2,3,4,5 }, i;
for( i=0;i<5;i++)
  { if(a[i]%2==0)
      a[i]*=3;
      else
        a[i]*=2;
   cout<<a[i]<<"\t";
  }
   getch();
 }
```

(iii) #include<iostream.h> [2]

```
void main()
{ int x=25, y=20, z;
        int pqr(int, int);
   z=pqr(x,y);
   cout<<z<<"\n";
      cout<<"X="<<x<<"Y="<<y<<"\n";
}
int pqr(int a, int b)
{ int m;
    if(a>=b)
     m=a+2;
  else
     m=b+2;
    return m;
 }
```

(iv) if a=12; b=13 then what will be the value of following expressions: [2]

(i) a && b || b && 0

(ii) a= (a>=b)? b+25 : b-5;

(c) Read the following code and answer the following questions: [2]

```
int maxx(int a, int b)
{ if(a>b)
   return a;
 else
  return b;
}
void main()
{  int x,y,z;
   cin>>x>>y;
   z=maxx(x,y);
  cout<<"maxx value is "<<z<<"\n";
}
```

[i] Which method is used to call the given function maxx()? [1/2] [2]

[ii] name the called function & calling function in the above code:[1]

[iii] The underlined statement is known as…….. [1/2]

(d) Mark underlines for each error in the following program and also give explanation about the error occurs in the program.

```
include< iostream.h>
void main();
{
INT a,b, c;
cout<<"enter the values\n";
cin>>a>>b;
c=sqrt(a+b);
cout<<"the result is: "<<c;
}
```

[1]

(f) What will be the output if inputs for the variable code is given below:

a) M b) B

```
{ char code;
cin>>code;
if(code=='A')
  cout<<"ACCOUNTANT";
else if (code=='C' || code=='G')
      cout<<"GROUP D";
   else if(code=='F' ||code=='M')
         cout<<" F OR M ADVISOR";
        else
          cout<<"CONTRACTOR";
}
```

Q. No. 3.

Solve the following Questions using C++:

(a) Explain the run time and compile errors, with examples? [2]

(b) Write some guide lines to develop a computer program and State some characteristics of a good program. [3]

(c) Define the goto statement with example. [2]

(d) Write the name of header files for the following functions. (1) tan() (2) clrscr() (3) tolower() (4) strcmp() [2]

(e) Explain the tokens used in the C++. [3]

(f) Define the usage of endl and setw() manipulators, with examples. [2]

Q. No. 4.

Write programs in C++ for the followings:

(a) Enter the purchase amount (PA) of a customer and calculate the discount on the basis of following criteria: [4]

If PA >=10000 then discount is 15%
If PA >=5000 (<10000) then discount is 10%
If PA <5000 then discount is 5%
Display the PA, discount and net pay (np=PA-discount) of customer.

(b) Enter two numbers and make a four function calculation program using switch statement, which calculate addition, subtraction, multiplication and divide operation. Display the result with proper messages. [4]

(c) Print the sum of series: $x+ x^3/3 + x^5/5 + \ldots\ldots x^n/n$

OR

Print the following pattern: [3]

```
   1
  2 2
 3 3 3
4 4 4 4
```

(d) Enter 10 numbers in an array and modify the array elements by using a separate function Modify(), which will replace all negative elements by 0 (zero) and print them at output. [5]

OR

Enter a string and count the letters, digits, special characters and others in the string

(e) Define a structure *Employee* with elements Emp_id, Name, Designation and Salary. WAP to enter 2 employees record and print the record having high salary. [4]

(f) WAP to find the Transpose matrix of a 4x4 matrix.

OR [4]

WAP to enter a 3x3 matrix and print the row wise sum of the matrix.

Q. No. 5.

(a) Name the various types of input devices used in computer system. [1]

(b) Compare the SRAM and DRAM? [2]

(c) (i) Select the device from the following having highest storage capacity: [1]

CD ROM, DVD, Hard Disk, Floppy disk

(ii) Which generation computer implements VLSI-IC Technology:

II^{nd} Gen., III^{rd} Gen., IV^{th} Gen. [1]

(c) Give full form for the following:

SDRAM, DVD

(d) Convert the following numbers into another base:

(i) $(11010)_2 = (\ ?\ )_{10}$ [2]

(ii) $(1100)_{10} = (\ ?\ )_8$

(iii) $(CA7.9)_{16} = (\ ?\ )_2$

(iv) $(542.3)_8 = (\ ?\ )_{10}$

Atomic Energy Central School No 4 Rawatbhata

Confidence Examination (2018-19)

Max. 70 marks CLASS-11, PHYSICAL EDUCATION Time 3 hour

General Instructions:

Question paper consists of 26 questions.

All questions are compulsory

Questions 1 to 11 are 01 Mark questions. These must be answered in 10-20 words.

Questions 12 to 19 are 03 Marks questions. That must be answered in 30-50 words.

Questions 20 to 26 are 05 Marks questions. That must be answered in 75-100 words.

1 Explain the term “physical Activity environment”

2 What do you mean by “life style”

3 State the aim of physical education.

4 Define psychology.

5 What do you mean by learning?

6 Explain dynamic equilibrium.

7 What does the organizers instead by saying that “only such students shall participate in the intramurals cricket competition who have not rep- resented the school in any cricket championship in the past 2 years.

8 What do you mean by human Anatomy?

9 Define Test?

10 When and how did the ancient Olympics Games begin.

11 What is pranayam?

12 Explain the factors which effect wellness?

13“Physical Education is an integral part of general education” justify this statement.

14 Elaborate the functions of “IOC”.

15 It is universal truth that modern age is the age of stress, tension and anxiety “How can yoga help is in prevention and management of these profitness.

16 What do you mean by prohibited substance? Explain the homologous blood doping?

17 Enlist the various career options available in the field of physical education and sports.

18 What do you mean by measurement? Illustrate the importance of test and measurement in the field of sports?

19 Discuss about the structure, location and function of heart in the human body?

20 “Nowadays biomechanics is playing a vital role is improving the performance of sports persons” Justify the statement?

21 Explain the developmental characteristics of adolescence?

22 What do you mean by warning up? Enumerate the methods of warning up in detail?

23 What do you mean by muscular system of the human body. Explain the structural classification of muscles in detail?

24 Explain about the functions of skeletal system? Elaborate the freely mov- able joints in detail.

25 Discuss about the organizational setup of CBSE spots?

26 Describe about in competition and out of competition testing for doping control?

परमाणु ऊर्जा केन्द्रीय विद्यालय – 4 रावतभाटा

आत्मविश्वास परीक्षा – प्रथम (2018-19) , कक्षा -11(ग्यारहवीं)

विषय - हिन्दी (केंद्रिक) खण्ड – क समय - 3 घंटे पूर्णांक - 80

प्र॰1 निम्नलिखित गदयांश को ध्यानपूर्वक पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए –

भोजन संबंधी भूलों मे सबसे बड़ी भूल बिना भूख खाना है। बिना भूख भोजन करना अपने शरीर के साथ अपराध करना है। प्राय: लोगों का विचार है कि अधिक खाने से शरीर हृष्ट –पुष्ट होता है और कम खाने से शरीर कमजोर हो जाता है। यह धारणा बिल्कुल गलत और स्वास्थ्य के नियमों का ज्ञान न होने का सूचक है। सभ्य समझे जाने वाली जातियों मे यह प्रथा अधिक प्रचलित है। यही कारण है कि उनमें अपच का रोग बहुत अधिक होता है। मनुष्य ही एक ऐसा प्राणी है जो भूख न लगने पर भी भोजन करता है। अन्य कोई प्राणी बिना तेज भूख लगे भोजन नहीं करता। कई सहस्र व्यक्ति भोजन केवल एक बार करते हैं।इस प्रकार के व्यक्ति केवल अभ्यासवश भोजन करते हैं और वे प्राय : अपना कर्तव्य समझते हैं। भोजन को कभी कर्तव्य नहीं समझना चाहिए और न ही उसका अभ्यास डालना चाहिए। भोजन जब अच्छा नहीं लगता , तब वह लाभप्रद भी नहीं होता।

हम जो कुछ खाते हैं ,उसी से ही हमारे शरीर का निर्माण होता है। अतएव भोजन ऐसा होना चाहिए जो संतुलित हो ,ताजा हो और शीघ्र पच जाने वाला हो। ऐसा भोजन ही हमारे लिए लाभप्रद होता है। ऐसे भोजन से ही हम दीर्घजीवी ,स्वस्थ और नीरोग होते हैं।

(क) भोजन कब करना चाहिए ? 2

(ख) कौन - से लोगों मे अपच कारोग अधिक होता है? 2

(ग) भोजन कब अच्छा नहीं लगता ? अच्छा न लगने पर भी भोजन करना क्यों हानिकारक होता है? 2

(घ) कई लोग अभ्यासवश भोजन करते हैं।क्या ऐसा करना उचित है ? 2

(ड)शरीर का निर्माण किससे होता है ? 1

(च) गदयांश का उचित शीर्षक दीजिए। 1

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

संभालो कि सु-योग न जाए चला ,
कब व्यर्थ हुआ सदुपाय भला ?
समझो जग को न नीरा सपना ,
पथ आप प्रशस्त करो अपना।
अखिलेश्वर है अवलंम्बन को ,
नर हो न निराश करो मन को॥

(क) इस काव्यांश मे मनुष्य को क्या प्रेरणा दी गई है ? 1

(ख) 'सुयोग' से कवि का क्या आशय ह? 1

(ग) "संसार एक सपना है "-यह कह कर कवि क्या समझाना चाहता है ? 1

(घ) कवि के अनुसार सफलता पाने का क्या उपाय है ? 1

(ङ) सब का सहारा कौन है ? 1

(च) पथ के दो पर्यायवाची शब्द लिखिए। 1

खण्ड –ख

प्र . 3 निम्नलिखित मे से किसी एक विषय पर निबंध लिखिए। 8

(क) देश के उत्थान मे युवाओं का योगदान (ख) राष्ट्र सेवा : सर्वोत्तम सेवा

(ख) मेरा प्रिय कवि (ग) पुस्तकों का महत्व

प्र . 4 अपने प्रधानाचार्य को एक आवेदन पत्र लिखिए ,जिसमें खेल का सामान उपलब्ध कराने की प्रार्थना की गई हो। 5

अथवा

अस्पतालके प्रबंध पर संतोष व्यक्त करते हुए चिकित्सा अधीक्षक को पत्र लिखिए।

प्र . 5 निम्नलिखित प्रश्नों के संक्षिप्त उत्तर लिखिए -

(क) मौखिक संचार का क्या आशय है ? 1

(ख) प्रिंट मीडिया से क्या आशय है ? इसके दो उदाहरण लिखिए। 1

(ग) समाचारों को संकलित करने वाले को किस नाम से पुकारा जाता है ? 1

(घ) लाइव से क्या आशय है ? 1

प्र . 6 अपने विद्यालय के वार्षिकोत्सव पर एक प्रतिवेदन तैयार कीजिए। 3

अथवा

आज की तनावपूर्ण जीवन –शैली पर एक फीचर लिखिए।

खण्ड –ग

प्र . 7 निम्नलिखित पदयांश को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए। 3 x 2 =6

लहराते वह खेतदृगो में
हुआ बेदखल वह अब जिनसे ,
हँसती थी उनके जीवन की
हरियाली जिनके तृण –तृण से !

(क) किसान की आँखों के सामने कौन से खेत लहराते हैं और क्यों ?

(ख) अपने खेतों के कारण उसका जीवन कैसा था ?

(ग) किसान को खेतों से बेदखल क्यों कर दिया गया ?

अथवा

मै मजे मे हूँ सही है , घर नहीं हूँ बस यहीं है ,
किन्तु यह बस बड़ा बस है ,इसी बस से सब विरस है।

(क) क्या कवि जेल मे रहते हुए मजे मे है ?

(ख) भवानी का जीवन विरस क्यों है ?

(ग) उपर्युक्त पंक्तियों में बस शब्द के प्रयोग की विशेषता बताइए।

प्र . 8 भाव सौंदर्य व शिल्प सौंदर्य स्पष्ट कीजिए। 3+3=6

अंसुवन जल सींची –सींची ,प्रेम-बेलि बोयी ,
अब त बेली फैलि गई ,आणंद –फल होयी।

अथवा

दूध की मथनियाँ बड़े प्रेम से विलोयी ,

दधि मथि घृत काढि लियो ,डारि दई छोयी।

प्र . 9 निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर लिखिए। 2+2=4

(क) कबीर की दृष्टि में ईश्वर एक है। इसके समर्थन में उन्होने क्या तर्क दिए हैं?

(ख) आपके विचार में चंपा ने ऐसा क्यों कहा होगा कि मैं तो नहीं पढ़ूँगी ?

(ग) लक्ष्य –प्राप्ति में इंद्रियाँ बाधक होती हैं-इसके संदर्भ में अपने तर्क दीजिए।

प्र . 10 निम्नलिखित गदयांश को पढ़ कर पूछे गए प्रश्नों के उत्तर दीजिए।

नौकरी में ओहदे की ओर ध्यान मत देना ,यह तो पीड़ का मजार है। निगाह चढ़ावे और चादर पर रखनी चाहिए। ऐसा काम ढूँढना जहां कुछ ऊपरी आय हो। मासिक वेतन तो

पूर्णमासी का चाँद है जो एक दिन दिखाई देता है और घटते –घटते लुप्त हो जाता है। ऊपरी आय बहता हुआ स्रोत है जिससे सदैव प्यास बुझती है। वेतन मनुष्य देता है ,इसी से उसमें वृद्धि नहीं होती। ऊपरी आमदनी ईश्वर देता है ,इसी से उसकी बरकत होती है ,तुम स्वयं विद्वान हो ,तुम्हें क्या समझाऊँ।

(क)ओहदे को 'पीड़ का मजार' कहने में क्या व्यंग्य है ? 2

(ख) चढ़ावे और चादर पर नजर रखने का क्या आशय है ? 2

(ग) मासिक वेतन को पूर्णमासी का चाँद क्यों कहा गया है ? 2

(घ) कहानी तथा कहानीकार का नाम लिखिए। 1

अथवा

आगे भी इस देश मे जो प्रधान शासक आए ,अंत मे उनको जाना पड़ा। इससे आपका जाना भी परंपरा की चाल से कुछ अलग नहीं है ,तथापि आपके शासन- काल का नाटक घोर दुखांत है , और अधिक आश्चर्य की बात यह है कि दर्शक ही तो क्या ,स्वयं सूत्रधार भी नहीं जानता था कि उसने जो खेल सुखांत समझकर खेलाना आरंभ किया था ,वह दुखांत हो जावेगा। जिसके आदि मेसुख था ,मध्य मे सीमा से बाहर सुख था ,उसका अंत ऐसे घोर दुख के साथ कैसे हुआ ? आह घमंडी खिलाड़ी समझता है कि दूसरों को अपनी लीला दिखाता हूँ। किन्तु पर्दे के पीछे एक और ही लीलामय की लीला हो रही है ,यह उसे खबर नहीं है !

(क) पाठ और लेखक का नाम लिखिए।

(ख) घमंडी खिलाड़ी किसे कहा गया है और क्यों ?

(ग) लार्ड कर्जन का शासन काल कैसा था ?

(घ) लेखक के अनुसार सुख- दुख का सूत्रधार कौन है ?

प्र . 11 निम्नलिखित प्रश्नों मे से किन्हीं तीन के उत्तर दीजिए। 3+3+3=9

(क) नमक विभाग के दारोगा पद के लिए बड़ों –बड़ों का जी ललचाता था। वर्तमान समाज मे ऐसा कौन - सा पद होगा जिसे पाने के लिए लोग लालायित रहते होंगे और

क्यों ?

(ख) मियां नसरुद्दीन को नानबाइयों का मसीहा क्यों कहा गया है ?

(ग) धनराम मोहन को अपना प्रतिद्वंद्वी क्यों नहीं समझता था ?

(प) इतिहास मे स्फीति का वर्णन नहीं मिलता। क्यों ?

प्र . 12 आलो – आंधारि नामक पाठ से आपको क्या प्रेरणा मिलती है ? 4

अथवा

कुमार गंधर्व ने लता को बेजोड़ गायिका क्यों कहा है ?

प्र. 13 निम्नलिखित प्रश्नों में से किसी दो प्रश्नों के उत्तर लिखिए। 4x 2=8

(क) कुंई का मुह छोटा क्यों रखा जाता है ?

(ख) `तातुश ने बेबी हालदार को लेखन के लिए क्यों और कैसे बाध्य किया?

(ग) लेखिका ने चित्रपट संगीत में क्या योगदान दिया ?
