ATOMIC ENERGY CENTRAL SCHOOL No. 4, RAWATBHATA

Annual Examination (2017 – 18)

Maximum Mark : 80 **Class – XI, ENGLISH** **Time: 3 Hours**

General Instructions :

a. **This paper is divided into three sections : A, B and C. All the sections are compulsory.**
b. **Separate instructions are given with each section and question, wherever necessary. Read these instructions very carefully and follow them faithfully.**
c. **Do not exceed the prescribed word limit while answering the questions.**

SECTION A : Reading (20 Marks)

1. Read the passage given below and answer the questions that follow. **(12)**

Travel is a bug that was in me when I was born, probably inherited from my father. In 24 years of travelling widely through India, I have been most fascinated by those little islands that dot the Bay of Bengal off the East Coast of India. Yes, I am talking about the Andaman islands . Andamans somehow seemed almost sinister, with images of being haunted, bleak and scary, until my parents actually returned from a trip to Port Blair and told us about these serene islands. We immediately awaited the first opportunity to take a break and check them out. Finally, the D – Day came and we were all ready. We boarded the aircraft and to our surprise found that there were several empty seats. On enquiry , we learnt that all supplies to the Andamans including newspaper and meat go from the mainland and so there is always more cargo and less people.

Port Blair airport is a small , old airport that was constructed in 1947.On my way to the hotel, I noticed that there are none of the usual auto – rickshaws that noisily wend their way through most Indian towns. There was only one traffic signal in the entire town and the roads were more ups and downs than level. This was all surprising for a person like me who has lived in the coastal towns of Chennai and Mumbai.

The colour of the sea was an unpolluted blue, a colour that I had not seen in any of the beaches in India. It was calm, and beautiful. I was thrilled with the fact that we were going to spend 10 entire days there. All we had to do was sit in the open restaurant , look at the sea, enjoy the cool breeze and feel good.

The Andaman islands are a group of several islands, so most of our sight seeing was by boats. There are a total of more than 356 islands there. Even the oldest boatman, Rathnam, had seen only 200 of them. I figured that 10 days was surely not enough to get a full picture of this place, so I started to store every sight , every sound and every smell. The sound and light show at the jail sent a shiver down my spine. (This trip was before the movie 'Kalapani' was released).The realisation that those who fought for our independence had lived, struggled, suffered and even died here left an impact.

(a) On the basis of your reading of the given passage, answer the following questions by choosing the correct option. **(1x6 = 6)**

(i) What kind of a passage is this?

(a) Fiction (b) Travelogue
(c)Persuasive (d) Biography

(ii) Why was the author interested in taking a trip to Andaman islands ?

(a) It had a haunted, bleak and scary image

(b) As his parents had recently taken a trip there

(c) He loved travelling

(d) He was largely fascinated by what his parents told him about the islands

(iii) Why was the author surprised when he reached Port Blair ?

(a) The airport was very small
(b) There was only one traffic signal in the entire town
(c) Living in a busy city, he had never expected such a town
(d) None of the above

(iv) What is the meaning of the phrase 'sent a shiver down my spine'?

(a) Feel very frightened

(b) Feel very excited
(c) Feel very relaxed
(d) None of these

(v)The synonym of 'sinister' in the first paragraph is .....

(a) Threatening

(b) Left side

(c) benign

(d) good

(vi) One thing that left a major impact on the author was .....

(a) The serenity of the place
(b) The wholesome experience
(c) Vastness of the islands
(d) The realisation that freedom fighters had lived, struggled and died there

(b) Answer the following questions and complete the statements. **(1x6=6)**

(i) Why were there several empty seats in the aircraft?
(ii) What was unusual about Port Blair?
(iii) How did the author describe the beaches?
(iv) Why was most of their sightseeing by boats?
(v) The word ..... in the passage means 'provisions'.
(vi) ..... in the passage is an antonym of 'contaminated'.

Q.2. Read the passage given below and answer the questions that follow**.** **8**

India has stood for freedom: Even before independence, we viewed our own struggle and difficulties on the larger canvas of global problems. If democracy is basically tolerance for other's opinions, the concept of co – existence is democracy on the international plane, for it embodies tolerance of other nations and systems. Similarly, non – alignment gives depth to pour independence and self – reliance for it enables us to retain our freedom of judgement and action on international issues in the light of our national interests. We avoid involvement in the conflicts and disputes of others and this helps to blunt conflict between power blocs. I should like to think that it has also helped world stability.

A country is an extended family. When income and resources are limited , one must budget to ensure that waste is avoided, resources husbanded, priorities established, education and other social needs catered to, special provision made for those who are weaker or smaller. Industry has to be balanced with agriculture; technology with culture; state ventures with private initiative; economic growth with social justice; the large with the small. Every section of society must be stimulated to creative activity.

That is our planning. In no way it is totalitarian or coercive. Industrialising, modernising and transforming an ancient society of immense size, population and diversity is a daunting venture and inevitably, a gradual one. Otherwise there will be resentment. Transformation should not cause too much dislocation or suffering for the people nor should it jettison the basic spiritual and cultural values of our civilisation.

India's planning experience sums up the successes and problems of our democratic development. The magnitude and significance of democracy's operation in India are not well understood, for it is often treated as an adventitious or borrowed growth. Why has democracy worked in India? Our national leadership was dedicated to it and we wanted it to work . Also in our society there were elements and traditions which supported the growth of democracy.

In our democratic system, there may be differences in many spheres, but we rise above them. To achieve the objective of keeping the country united, we have to transcend political and party – based differences, which create dissensions. If we cannot remain united and the country does not remain strong, with whom shall we have differences? Against whom shall we fight? With whom shall we be friends? Brothers and sisters, if the country falls, nobody survives. When we were fighting for the freedom of our country, it did not mean only political freedom. It also meant social justice, equality and economic justice. Only one phase is over and another one is under away. We have to cover a long and difficult path. Whereas the enemies were visible during those days ; now they are in disguise. Some of them are openly our enemies, but many become unintentional pawns of others.

(a) On the basis of your reading of the above passage, make notes on it using headings and sub – headings. Use recognisable abbreviations wherever necessary (minimum 4). Supply an appropriate title to it. **(5)**

(b) Write a summary of the above passage in about 80 words**.** **(3)**

SECTION B : Writing Skills and Grammar (30 Marks)

3. You own a three – storey bungalow in Dwarka. You want to let out the first and the second floor on rent. Draft an advertisement in 50 words to be published in the classified column of The Times of India. You are Sunil/ Sunita. **(4)**

Or

CBSE Board exams are just round the corner and as an educationist you can feel the pressure on students. Design a poster on behalf of CBSE to be displayed in various schools asking students to take the help of counsellors.

4. You are running an acting school in Faridabad. You have received a letter from an evening school in Lalganj enquiring about the courses available, eligibility criteria and fees details. As the Counsellor of the Institute, write a letter in about 120 -15o words furnishing all details. You are Naresh/ Nilima Arora, Counsellor, National Acting School, Faridabad. **(6)**

Clues

*Courses available related to acting as well as other fields

* Eligibility : at least a graduate

* Admission on first come first serve basis

* Candidates to give acting test
* Certificates awarded to students at the end of the course

Or

Recently you visited Naini Lake in Model Town, Delhi. You were disheartened to see how adventure sports were harming the aquatic life of the lake. You spoke to the local authorities, but no action had been taken so far. Write a letter to the Editor, The Hindu, drawing the attention of the Municipal Corporation of Delhi in 120 – 150 words. You are Somesh/ Sakshi of 12, MG Road, Gurgaon.

Clues
*Adventure sports harming aquatic life
* Many species of aquatic animals disappearing
*Visitors also littering the area
*No action taken by local authorities

5. Many cases of road accidents are reported everyday._Innocent people loose their lives on the roads. Write an article in about 150 – 200 words highlighting the issue of rash driving. You are Abhishek/ Akansha Sharma (**10)**

Or

Yesterday, while going to school you came across two child beggars at a traffic signal. They had paint on their faces and were acting to gather money from people. Narrate this heart touching incident in about 150 – 200 words.

6. The following passage has not been edited. There is one error in each line. Write the incorrect word and the correction in your answer sheet.(**1/2 x 8 = 4)**

	Incorrect	**correct**
(a) Dolphins are regard as the friendliest creatures in the sea and stories of them	--------	----------
(b) helping drowning sailors had been	------	--------
(c) common for Roman times. The more	--------	--------
(d) we learn about dolphins, the several	---------	---------
(e) we realise that their society is most	----------	----------
(f) complex than people previously imagine. They	----------	----------
(g) look after other dolphins lest they are ill, and protect	----------	----------
(h) the weakest in the community, after we do.	----------	----------

7. Rearrange the following words/ phrases into meaningful sentences. **(1x2 =2 Marks)**

a. the coldest/this winter/is/in living memory
b. take/steps/we/Earth's/must/immediate/to save/ resources

8. Vikas has written the following letter to his friend, Nikhil. After reading the details, complete the passive sentences in the conversation. Do not add any new information. **(1x4 = 4)**

Someone broke into our house at the weekend. The burglar took some jewellery .But luckily he didn't do any damage. Later, a nice young police officer interviewed me.

Vikas : Our house (a) .....
Nikhil : Oh no!
Vikas : Some jewellery (b) ..... But luckily no (c).....
Nikhil : Did the police come and see you?
Vikas : Yes, they did. I (d) .....

SECTION C : Literature and Long Reading Text (30 Marks)

9. Read the extract given below and answer the questions that follow. **(1x3 = 3 marks)**

"Eternal I rise impalpable out of the land and the
Bottomless sea,
Upward to heaven, whence, vaguely form'd, altogether
Changed, and yet the same,"

(i) Who is 'I' referred to here?
(ii) Explain 'Eternal I rise'.
(iii)How does the rain get formed ?

Or

''The cardboard shows me how it was
When the two girl cousins went paddling,
Each one holding one of my mother's hands,
And she the big girl – some twelve years or so."

i. Who are the two girl cousins mentioned here?
ii. Who was the big girl here ?
iii. What does the use of cardboard depict here ?

10. Answer any three of the following questions. **(3x3 = 9 Marks)**

(i) According to Jonathan, why was the narrator, the best father and the best captain in the world?

(ii) In the poem 'Childhood', what is the poet's feelings towards childhood ?

(ii)How did Mr . Braun insult Albert Einstein ?
(iv) What is meant by laissez – faire? Why were the principles established?

11. Answer any one of the following questions in about 120 – 150 words**. (6)**

Explain the term 'Green Movement'. What changes have come in the thinking of human beings? Discuss in relation to the chapter, 'The Ailing Planet: the Green Movement's Role'.

Or

Was Aram right in saying that he did not steal the horse? Do you think he was Mourad's partner in crime? Discuss the situation in the story, 'The Summer of the Beautiful White Horse'.

Long Reading Texts (Novel)

12. Answer the following question. (**6)**

Write the character sketch of the twins.

13. Answer the following question? **(6)**

Give a brief character sketch of the Canterville Ghost.

Atomic Energy Central School No.4 Rawatbhata
Annual Examination (2017-18)
Class XI , Physics

Time: 3 Hrs. M.M: 70

General instructions:-

(i) All questions are compulsory. There are 26 questions in all.
(ii) This question paper has five sections: Section A, Section B, Section C, Section D and Section E.
(iii) Section A contains five questions of one mark each, Section B contains five questions of two marks each, Section C contains twelve questions of three marks each, Section D contains one value based question of four mark and Section E contains three questions of five marks each.
(iv) There is no overall choice. However, an internal choice has been provided in one question of two marks, one question of three marks and all the three questions of five marks weightage. You have to attempt only one of the choices in such questions.
(v) Use log table if necessary. Use of calculator is not permitted.

SECTION-A

1. What is the effect of temperature on the surface tension of a liquid. 1
2. Give the dimensional formula for coefficient of viscosity. 1
3. What w illbe the ratio of the linear momentum of masses if one of the mass is 'n' timesasheavy as the other and both have equal K.E? 1
4. State the number of significant figures in the following : 1
   (a) 0.007 m^3 (b) 6.320 J.
5. How can one find instantaneous velocity from a position-time graph? 1

SECTION-B

6. If a unit vector is given to be $\frac{1}{\sqrt{2}}\hat{i} + \frac{1}{\sqrt{2}}\hat{j} + c\,\hat{k}$. Find out the valueof c? (2)

7. Discuss the variation of acceleration due to gravity with altitude. (2)
8. A block of mass m is lying at rest on an inclined plane having angle of inclination θ. Explain the equilibrium of the block by showing various forces acting on it. (2)

9. A hydraulic lift is designed to lift cars with a maximum mass of 3000 kg. The area of cross-section of the piston carrying the load is 425 cm^2. What maximum pressure would the piston have to bear? (2)

10. A transverse wave is represented as y = 3sin (36t + 0.018x $+\pi/4$) cm. Find the amplitude and frequency of the wave. (2)

OR

Velocity of sound in air at N.T.P. is 332 ms^{-1}. What will be the velocity, when pressure is doubled

and temperature is kept constant?

SECTION-C

11. Prove that potential energy stored in a spring is ½ k x^2, where k isthe force constant of the spring and x is the change in length of the spring. (3)

12. Show that terminal velocity 'v'of a spherical object of radius r, density ρ falling through viscous medium of density σ and coefficient of viscosity η is given by $v = \frac{2(\rho-\sigma)r^2 g}{9\eta}$

13. Show that average kinetic energy of a monoatomic ideal gasmolecule is 3/2kT, where k is Boltzmann constant and T is absolute temperature of the gas. Hence give the kinetic Interpretation of temperature. (3)

14. State and prove the law of conservation of linearmomentum. (3)

15. Show that the pressure P at a depth h from the free surface of a liquid in a container is P = Po + h g, where Po is the atmospheric pressure, is the density of liquid and g is acceleration due to gravity. (3)

16. With necessary derivations, show that for a particle in SHM, the sum of kinetic energy and potential energy is constant at any instant of time. (3)

17. State first law of thermodynamics mathematically. What conclusions do you draw from it (3)

a. for an isothermal process

b. for an adiabatic process.

18. Obtain an expression for the angle which a cyclist will have to make with the vertical, while taking a circular turn. (3)

19. Define escape velocity. Derive an expression for escape velocity of an object from the surface of a planet. (3)

20. Establish a relation between linear velocity and angular velocity in a uniform circular motion. What will be the direction of the linear velocity and acceleration at any instant in a uniform circular motion? (3)

21. A gas bubble, from an explosion under water, oscillates with a period T proportional to $p^a d^b E^c$, where p is the static pressure, d is the density of water and E is the total energy of the explosion. Find the values of a, b and c using dimensional analysis (3)

22. Prove that S = ut + ½ at^2 using graphical method.

OR

Two vectors are given as A=2i-3j+5k and B = i-j+k. Find the cross product of the given vectors and write its geometrical meaning. (3)

SECTION-D

23. Divyam was discussing about science to his elder sister Gargi in the dining room and so their mother came who was cooking in the kitchen shouted at them. All of a sudden, he saw his mother sweating and feeling hot inside the kitchen. Divyam opened the door of the refrigerator thinking that this might relieve her from heat. But, his sister immediately rushed towards him and closed the door. She then made him understand that opening of refrigerator would increase the temperature of the room.

a) Write any two values of Gargi that you appreciate. (1)

b) Why a room cannot be cooled by opening the door of refrigerator? (1)

c) If the temperature inside an ideal refrigerator is 285 K, then how much heat is delivered to room for every one joule of work done on working substance when room temperature is 320^0C?

(2)

SECTION-E

24. (a) What is rotational analogue of mass? Define it for a rigid body. What are the factors on which it depends?

(b) A solid cylinder of mass 20 kg rotates about its axis with angular speed 100 rad s^{-1}. The radius of the cylinder is 0.25m. What is the kinetic energy associated with the rotation of the cylinder?

OR

a. State and prove the law of conservation of angular momentum.

b. An ice skater controls her rotational speed by folding or unfolding her hands? Explain it. 5

25. a) State Hooke's law. Plot the stress- strain curve for a typical metal. Clearly indicate theYield point, permanent set and fracture point on it. From this curve how can you say whether a substance is ductile or brittle? (3)

b)A steel wire of length 4.7 m and cross-sectional area 3.0 x 10^{-5} m^2 stretches by the same amount as a copper wire of length 3.5 m and cross-sectional area of 4.0 x $100^{-5}m^2$ under the same load. What is the ratio of Young's modulus of steel to that of copper? (2)

OR

a) Define molar specific heat capacities at constant volume and at constant pressure. Derive the relationship between these two. (3)

b)A copper block of mass 2.5 kg is heated in a furnace to a temperature of 500^0C and then is placed on a large ice block. What is the maximum amount of ice that can be melted? (specific heatcapacity of copper = 0.39 J g^{-1} C^{-1} ; Latent heat of fusion of water = 335 J g^{-1})

(2)

26. Define simple harmonic motion. Show that in S.H.M., the acceleration is directly proportional to the displacement at any instant but opposite in direction. (3)

(a) A simple pendulum executes S.H.M. about x = 0 with an amplitude 'A' and timeperiod T. What is the speed of the pendulumatx = A/2 ? (2)

(OR)

(a) What are stationary waves? Calculate the frequencies of first three harmonics in a pipe closed at one end. (3)

(b) A string of mass 2.50 kg stretches to a length 20.0 m when subjected to a tension of 200 N. A transverse pulse is created at one end of the string. How long does it take to reach the other end of the string? (2)

ATOMIC ENERGY CENTRAL SCHOOL No 4 RAWATBHATA

Annual Examination 2017-18

Class- XI, Biology

Time : 3 Hrs Max.Marks: 70

General Instructions:

1. All questions are compulsory.
2. The question paper consists of four sections A, B, C, D and E. Section A contains 5 questions of 1 mark each, Section B has 10 questions of 2 marks each, Section C has 9 questions of 3 marks each, whereas Section D has three questions of 5 marks each.
3. There is no overall choice. However an internal choice has been provided in one question of 2 marks, one question of 3 marks and all the 3 questions of 5 marks weightage. A student has to attempt only one of the alternatives in such questions.
4. Wherever necessary, the diagrams drawn should be neat and properly labeled.

SECTION "A"

1. Name the class of algae to which *Gelidium*and *Gracilaria* belong.
2. When the stamens are called epipetlous?
3. Hydra belongs to which phylum?
4. What do you mean by P_{680} and P_{700}?
5. Write the parts of the shoot system.

SECTION "B"

6. Illustrate Glycosidic and Peptide bond with example.
7. Name the respiratory organs of these Arthropods:

Prawn, Cockroach, Scorpion and spider.

8. "All vertebrates are chordates but all chordates are not vertebrates". Justify the statement.
9. Distinguish between: (a) Cardiac muscle and Striated muscles.

(b) Adipose and Blood tissue

10. What is mesosome in prokaryotic cell? Mention the function that it performed.

SECTION "C"

11. What are mitochondria? Why it is called semiautonomous organelles?

Or

Draw neat and labeled diagram of chloroplast, why it is also called semiautonomous organelles.

12. (i) Why meiosis is called reduction division?

(ii) Describe the events taking place during interphase.

(iii) What is G_0 phase?

13. Differentiate between

(a) Apoplst and Symplst pathways of movement of water in plants

(b) Guttation and Transpiration

14. (i) What is photorespiration?

(ii) RuBisCO is an enzyme that acts both as a carboxylase and oxygenase. Why do you think RuBisCO carries out more carboxylation in C_4 plants?

15. Explain briefly the following term with suitable examples:

(i) Protonema (ii) Antheridium (iii) Archegonium (iv) Diplontic (b) Sporohyll (vi) Isogamy

16. What is flower? Describe the parts of a typical angiosperm flower.
17. Describe the important properties of enzymes.

18. Explain: TV,IRV, ERV,RV, IC,FRC.

19. (i) Name the type of meristem on the basis of location.

(ii) The transverse section of young stem of a plant from the following anatomical features-

(a) The vascular bundles are conjoint, scattered and surrounded by a sclerenchymatous bundle sheaths.(b) Pholem parenchyma is absent.

What will you identify it as?

20. (i) Give a brief account of mechanism of synaptic transmission.

(ii) Differentiate between: Myelinate and non myelinated axons, Rods and cones

21. (i) Give a brief account of the counter current mechanism

(ii) What is meant by the term osmoregulation? Explain.

22. (i) Why do we call our heart myogenic?

(ii) Explain heart souns.

SECTION "D"

23. A group of students found a fish on the sea beach and carried it to their teacher. The teacher told them that it is a bony fish not a cartilage fish.

(a) On the basis of which characters, the teacher identified it as a bony fish?

(b) Enlist four differences between a cartilage fish and a bony fish.

(c) Why a cartilage fish has to swim continuously to stay at particular depth in water?

SECTION "E"

24. (i) Why pancreas is called a heterocrine gland? Name endocrine part of pancreas.

(ii) Distinguish between intracellular and extracellular digestion

(iii) Define: Anabolic and Catabolic reactions

OR

(i) List two peculiar symptoms of diabetes mellitus. What are estrogen and progesterone.

(ii) Describe the important characteristics of Gymnosperms.

(iii) What is meant by tertiary structure of Proteins?

25. (i) What do you mean by ammonotelic, ureotelic and uricotelic.

(ii) Write the name of ear Ossicles

OR

(i) Draw labeled diagrams of Human eye.

(ii) Compare CNS and PNS

26. (i) Give the schematic representation of an overall view of Krebs'cycle

(ii) Why is abscisic acid also known as stress hormone?

OR

Explain: (i) Electron Transport System.

(ii) Oxidative Phosphorylation.

Annual Examination (2017-18)

Max Time: 03 hrs Class: XI, Physical Education MM: 70

Instructions: Question paper consists of 26 questions.

- 1 marks questions must be answered in approximately 10-20 words.
- 3 marks questions must be answered in approximately 30-50 words.
- 5 marks questions must be answered in approximately 75-100 words.

QUESTIONS

Q.1.What do you understand by Physical Fitness?	1
Q.2.What is the meaning of “PER LUDOS AEQUALITAS” ?	1
q.3.What do mean by Somato type?	1
Q.4.To whom the Ancient Olympic games dedicated.	1
Q.5.Write any two jobs available in Sports media and Communication.	1
Q.6.Write Short note on YogNindra.	1
Q.7.List any four Air related Adventure sports.	1
Q.8.What is Oxygen Debt?	1
Q.9.Who is known as the Father of Kinesiology?	1
Q.10.Write any two harmful effect of Diuretics.	1
Q.11.”Health is an asset” comment.	1
Q.12.What are main objectives of Physical Education?	3
Q.13.Define Equilibrium and Write its type.	3
Q.14.How to tackle with overload.	3
Q.15.Describe Yogic Kriyas.	3
Q.16.Explain Olympic Ideals, Olympic Symbol and Olympic Flag.	3
Q.17.Write the properties of Muscles.	3
Q.18.Explain the Structure of Heart.	3
Q.19.Write the principles required to make the Adapted Physical Education effective.	3
Q.20.Explain the components of Health related Fitness.	5
Q.21.Write about Opening Ceremony & five days program of Ancient Olympic games.	5
Q.22.Describe the safety measures to be taken during Physical activity & Adventure sports.	5
Q.23.Explain the importance of Psychology in Game and Sports.	5
Q.24.What is Ergogenic Aids.? Explain its type.	5
Q.25.Explain the Soft skills required for different careers.	5
Q.26.Write the importance of Test, Measurement and Evaluation.	5

वार्षिक परीक्षा 2017 - 2018

पूर्णांक 90 कक्षा ग्यारहवीं , हिंदी (केन्द्रिक) समय 3 घंटे

खंड (क)

प्र० 1 निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए |

हमारा हिमालय से कन्याकुमारी तक फैला हुआ देश ,आकार और आत्मा दोनों दृष्टियों से महान और सुंदर है | उसका बाह्य सौंदर्य विविधता की सामंजस्यपूर्ण स्थिति है और आत्मा का सौंदर्य विविधता में छिपी हुई एकता की अनुभूति है |

चाहे कभी न गलने वाला हिम का प्राचीर हो , चाहे कभी न जमने वाला अटल समुंद्र हो, चाहे किरणों की रेखाओं से खचित हरीतिमा हो ,चाहे एकरस शून्यता ओढ़े हुए मरु हों , चाहे साँवले मेघ हों , चाहे लपटों में साँस लेता बवंडर हो,सब अपनी भिन्नता में भी एक ही देवता के विग्रह को पूर्णता देते हैं| जैसे मूर्ति के एक अंग का टूट जाना संपूर्ण देव विग्रह को खंडित कर देता है ,वैसे ही हमारे देश की अखंडता के लिए विविधता की स्थिति है |

यदि इस भौगोलिक विविधता में व्याप्त सांस्कृतिक एकता न होती,तो यह विविध नदी, पर्वत, वनों का संग्रह मात्र रह जाता| परन्तु इस महादेश की प्रतिभा ने इसकी अंतरात्मा को एक रसमयता में प्लावित करके इसे विशिष्ट व्यक्तित्व प्रदान किया है,जिससे यह आसमुद्र एक नाम की परिधि में बंधजाता है| हर देश अपनी सीमा में विकास पाने वाले जीवन के साथ एक भौतिक इकाई है ,जिससे वह समस्त विश्व की भौतिकऔर भौगोलिक इकाई से जुडा हुआ है|विकास की दृष्टि से उसकी दूसरी स्थिति आत्म रक्षात्मक तथा व्यवस्थापरक राजनीतिक सत्ता में है|तीसरी सबसे गहरी तथा व्यापक स्थिति उसकी सांस्कृतिक गतिशीलता में है , जिससे वह अपने विशेष व्यक्तित्व की रक्षा और विकास करता हुआ विश्व जीवन के विकास में योग देता है | यह सभी बाह्य और स्थूल तथा आंतरिक और सूक्ष्म स्थितियाँ एक दूसरे पर प्रभाव डालती और संयमित होती चलती हैं |एक विशेष भूखंड में रहने वाले मानव का प्रथम परिचय ,संपर्क और संघर्ष अपनर वातावरण से ही होता है और उससे प्राप्त जी ,पराजय, समन्वय आदि से उसका कर्म–जगत ही संचालित नहीं होता है, प्रत्युत अंतर्जगत और मानसिक संस्कार भी प्रभावित होते हैं |

क) उपर्युक्त अनुच्छेद का उपयुक्त शीर्षक लिखिए | 1

ख) हमारे देश की अखंडता के लिए विविधता की स्थिति कैसी है ? 1

ग) हमारा देश कहाँ से कहाँ तक फैला हुआ है ? 1

घ) किसी स्थान पर रहने वाले मानव का सबसे पहला परिचय किससे होता है ? 1

ड.) कोई भी देश अपने विशेष व्यक्तित्व की रक्षा कैसे करसकता है ? 1

च) हमारे देश का बाह्य सौंदर्य किसमें समाहित है ? 1

छ) विश्व –जीवन में कौन सा समास है ? 1

झ) 'आंतरिक' तथा 'संचालित' शब्दों में प्रयुक्त प्रत्यय लिखिए | 1

ट) 'विविधता ' तथा 'अनुभूति 'शब्दों में प्रयुक्त उपसर्ग लिखिए | 1

ठ) 'स्थूल ' शब्द 'आंतरिक ' शब्दों के विलोम लिखिए | 1

प्र० 2 निम्नलिखित अपठित काव्यांश को ध्यानपूर्वक पढकर पूछे गए प्रश्नों केउत्तर लिखिए| 1x1=5

शांति नहीं तब तक ,जब तक सुख - भाग न सबका सम हो |

नहीं किसी को बहुत अधिक हो , नहीं किसी को कम हो |

स्वत्व माँगने से न मिले , संघात पाप हो जाएँ |

बोलो धर्मराज , शोषित वे जियें या कि मिट जाएँ ?

न्यायोचित अधिकार माँगने से न मिले ,तो लड़ के |

तेजस्वी छीनते समर को , जीत या कि खुद मर के |

किसने कहा ,पाप है समुचित स्वत्व –प्राप्ति –हित लड़ना ?

उठा न्याय का खड्ग समर में अभी मारना –मरना ?

क) शान्ति के लिए क्या आवश्यक है ?

ख) कौन सा युद्ध निष्पाप है ?

ग) धर्मराज से पूछा गया प्रश्न हिंदी गद्य में लिखो |

घ) तेजस्वी लोगों की क्या पहचान है ?

ड.) उपर्युक्त काव्यांश का सारांश लिखिए |

खंड (ख)

प्र० 3 निम्नलिखित में से किसी एक विषय पर निबंध लिखिए | 10

क) लोकतंत्र में पत्रकारों का दायित्व |

ख)भारतीय नारी की चुनोतियाँ |

ग) स्वच्छ भारत अभियान : एक वरदान |

घ) यदि मैं करोड़पति होता |

प्र०4रेल यात्रा दिन-प्रतिदिन असुरक्षा के भय से ग्रस्त होती जा रही है |रेल मंत्री को पत्र लिख कर प्रभावी कदम उठाने के लिए अनुरोध कीजिए | 5

अथवा

विद्यालय की विज्ञान प्रयोगशाला को अत्याधुनिक बनाने की आवश्यकता समझाते हुए अपने विद्यालय के प्रधानाचार्य को पत्र लिखिए |

प्र० 5 निम्नलिखित प्रश्नों के संक्षिप्त उत्तर लिखिए -

1x5=5 क) ई –मेल से आप क्या समझते हैं ?

ख) जनसंचार का स्थायी माध्यम कौन सा है ?

ग) समाचार में शीर्षक का क्या महत्व है ?

घ) वैकल्पिक पत्रकारिता किसे कहते हैं ?

ड.) पत्रकार की बैसाखियाँ किसे कहा जाता है ?

प्र०6 ‘खान-पान और रहन-सहन की बदलती जीवन शैली ’ अथवा ‘ दूरदर्शन पर विज्ञापनों का बढ़ता प्रभाव ’ विषय पर एक फीचर लिखिए |5

खंड (ग)

प्र०7 निम्नलिखितपद्यांशकोपढ़करपूछेगएप्रश्नोंकेउत्तरलिखिए|

हे भूख मत मचल !, प्यास , तड़प मत

हे नींद मत सता !,क्रोध ,मचा मत उथल पुथल -

हे मोह पाश अपने ढील ! ,लोभ , मत ललचा

हे मद मत कर मदहोश !,ईर्ष्या , जला मत

ओ चराचर मत चूक अवसर !

आई हूँ संदेश लेकर चन्नमल्लिकार्जुन का |

क) 'ओ चराचर 'मत चूक अवसर ! पंक्ति में निहित आशय स्पष्ट कीजिए | 2

ख कवयित्री के अनुसार क्रोध,लोभ ,मोह आदि ईश्वर से दूर कैसे ले जाते हैं ? 2

ग) लक्ष्य प्राप्ति में इन्द्रियाँ बाधक होती हैं कैसे ? 2

घ) कविता एवं कवयित्री का नाम लिखिए | 2

अथवा

बहुत पानी गिर रहा है ,घर नजर में तिर रहा है ,

घर कि मुझसे दूर है जो,घर खुशी का पूर है जो,

घर कि घर में चार भाई , मायके में बहिन आई ,

बहिन आई बाप के घर , हाय रे परिताप के घर !

घर कि घर में सब जुड़े हैं ,सब कि इतने कब जुड़े हैं,

चार भाई चार बहिनें , भुजा भाई प्यार बहिनें |

क) कवि और कविता का नाम लिखिए | 2

ख) कवि की बहिन को अपना मायका " परिताप का घर " क्यों लगा होगा ? 2

ग) "भुजा भाई प्यार बहिने " का आशय स्पष्ट कीजिए | 2

घ) बरसात से कवि के हृदय पर क्या प्रभाव हुआ ? 2

प्र० 8 निम्नलिखित काव्यांश का भाव -सौंदर्य और शिल्प –सौंदर्य स्पष्ट कीजिए | 3+3=6

अंधकार की गुहा सरीखी , उन आँखों से डरता है मन ,

भरा उनमें दूर तक दारुण , दैन्य दुःख का नीरव रोदन ,

वह स्वाधीन किसान रहा ,अभिमान भरा आँखों में इसका

छोड़ उसे मंझधार आज ,संसार कगार सदृश बह खिसका |

अथवा

एकै पवन एक ही पानी एकै जोति समांना ||

एकै ख़ाक गढे सब भांडे एकै कोंहरा साना ||

जैसे बाढ़ी काष्ट ही काटें अगिनि न काटें कोई ||

सब घटि अंतरि तूही व्यापक धरै सरूपे सोई ||

प्र० 9निम्नलिखितप्रश्नोंमें से किन्हीं तीन प्रश्नों केउत्तरलिखिए|3x 6= 2क (लोग मीरा को बावरी क्यों कहते हैं ?

ख (पथिक कविता के आधार पर प्रकृति के सौन्दर्य का वर्णन कीजिए |

ग(भाषा के झारखंडीपंन से क्या अभिप्राय है ?
घ ('सिल दे जुबान शायर की' पंक्ति का आशय स्पष्ट कीजिए |

प्र० 10 निम्नलिखित गद्यांश को पढ़ कर पूछे गए प्रश्नों के उत्तर लिखिए | 3x2 =6

हार्टीकल्चर डिपार्टमेंट का सेक्रेटरी साहित्य प्रेमी आदमी जान पड़ता था |उसने लिखा था "आश्चर्य है इस समय जब हम 'पेड़ लगाओ ' स्कीम ऊँचे स्तर पर चला रहें हैं , हमारे देश में ऐसे सरकारी अफसर मौजूद हैं जो पेड़ों को काटने का सुझाव देते हैं , और वह भी फलदार पेड़ को और वह भी जामुन के पेड़ को , .जिसके फल जनता बड़े चाव से खाती है | हमारा विभाग किसी भी हालत में इस फलदार वृक्ष को काटने की इजाजत नहीं दे सकता | "

क) इस गद्यांश के लेखक और पाठ का नाम लिखिए |

ख) हार्टीकल्चर विभागकिसे कहते हैं ? उसने क्या जबाब दिया ?

ग) इस गद्यांश में किस व्यवस्था पर व्यंग्य है ?

अथवा

मैंने धृष्टता से उन्हें बताया कि 'बिन माँगे मोती मिले ,मांगे मिले न भीख |मेरे मन में मित्रों को यह संदेश देने की कामना है कि कुछ घटने के इन्तजार में हाथ पर हाथ धरे न बैठे रहो | जरा देखिए,अच्छे-खासे सम्पन्न परिवारों के बच्चे काम नहीं कर रहें हैं,जबकि उनमें तमाम संभावनाएँ हैं| मैं कुछ ऐसी बात कह रहा हूँ ,जिसमें खामी लगती हैं | यह बहुत गजब की बात नहीं है ,लेकिन मुझमें काम करने का संकल्प है | भगवत गीता कहती है , "जीवन में जो कुछ भी है ,तनाव के कारण है |" बचपन,जीवन का पहला चरण ,एक जागृति है|लेकिन मेरे जीवन का बंबई वाला दौर भी जागृति का चरण ही था |

क) लेखक युवा मित्रों को क्या संदेश देता है की?

ख) भगवत गीता का क्या संदेश है?ग) लेखक आवर पाठ का नाम लिखिए |

प्र० 11 निम्नलिखित प्रश्नों में से किन्हीं तीन के उत्तर दीजिए | 3x3=9

क) मियाँ नसीरुद्दीन की अखबार वालों के बारे में क्या राय है ?

ख) सत्यजीत रे को बारिश का दृश्य अंकित करने में क्या कठिनाई आयी ? उसका क्या समाधान निकला ?

ग)पकों की समस्याओं पर प्रकाश डालिएरजनी पाठ के आधार पर अध्या|घ) दुनिया के बारे में किसानों को बताना नेहरु जी के लिए क्यों आसन था ?

प्र० 12 "आलो –आँधारि " नामक पाठ में अनेक सामाजिक समस्याओं को उठाया है – पाठ के आधार पर सिद्ध् कीजिए | 5

अथवा

लता मंगेशकर में ऐसी कौन - कौन सी खूबियाँ हैं जो आपको प्रभावित करती हैं ?

प्र० 13 निम्नलिखित प्रश्नों में से किन्हीं दो प्रश्नों के उत्तर लिखिए 5 |x 2= 10

क कल्पना करे ?जीवन कैसा होता बेबी की जिन्दगी में तातुश का परिवार न आया होता तो उसका(और लिखें |

ख? शास्त्रीय संगीत और चित्रपट संगीत में क्या अंतर है (

ग कुंई (की निर्माण प्रक्रिया पर प्रकाश डालिए |

ATOMIC ENERGY CENTRAL SCHOOL NO. 4,RAWATBHATA 12/3/2018

ANNUAL EXAMINATION 2018

CLASS-11

SUBJECT-MATHEMATICS

TIME :3 HOURS M.M:100

GENERAL INSTRUCTIONS:

1. *ALL QUESTIONS ARE COMPULSORY.*

2. *THIS QUESTION PAPER CONSISTS OF 29 QUESTIONS DIVIDED INTO 4 SECTIONS A,B,C AND D. SECTION A COMPRISES OF FOUR QUESTION OF 1 MARKS EACH,SECTION B COMPRISES 8 QUESTIONS OF 2 MARKS EACH,SECTION C COMPRISES 11 QUESTIONS OF 4 MARKS EACH AND SECTION D COMPRISES 6 QUESTIONS OF 6 MARKS EACH.*

3. *ALL QUESTIONS IN SECTION A ARE TO BE ANSWERED IN ONE WORDS,/ONE SENTENCE OR AS PER THE EXACT REQUIREMENT OF QUESTIONS.*

Section-A

1. Let $A=\{x:x=2n,n\in z\}$ and $B=\{x:x=3n,n\in z\}$.then find $A\cap B$.
2. From the given table, Is y a function of x.justify your answer?

X	-2	-1.5	-1	-0.5	0.25	0.5	1	1.5	2
Y=1/X	-0.5	-0.67	-1	-2	4	2	1	.67	.5

3. Find the value of $(1/i)^{25}$

4. Write the negation of the given statement.

P: Every rectangle is a quadrilateral.

SECTION-B

5. State the De-morgan's law.

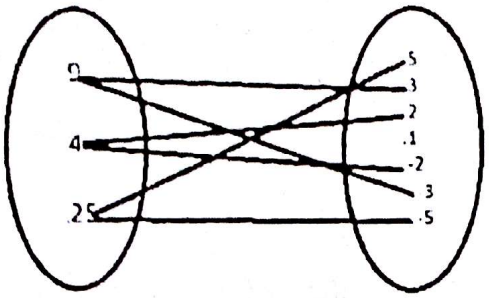
6. Find the domain of the function.

$f(x)=\sqrt{9-x^2}$

7. Find the equation of the ellipse whose vertices are(± 13,0) and foci are (±5, 0).

8. A straight line passes through the point (2, 3) and its intersected the axes is bisected at that point. Find its equation.

9. The figure below gives a relations. Write it in the roster form



10. Find the equation of the set of points which are equidistant from the points (1,2,3) and (3,2,1).

11. Find the values of 'k' which $\frac{-2}{7}$,k,$\frac{-7}{2}$ are in G.P. find the common ratios of G.P.

12. Find the sum of n terms of the sequence

7,7.7,7.77,7.777..... .

SECTION-C

13. Evaluate $\left|\frac{1+i}{1-i} - \frac{1-i}{1+i}\right|$

OR

If $(a+ib)(c+id)(e+if)(g+ih) = A+iB$, then show that $(a^2+b^2)(c^2+d^2)(e^2+f^2)(g^2+h^2) = A^2+B^2$.

14. Solve the given quadratic equation : $9x^2-12x+20=0$

15. What is the number of ways in which a set of 5 cards can be chosen out of deck of 52 cards if each set of 5 cards has exactly one ace?

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

17. Show that $\tan 3x \tan 2x \tan x = \tan 3x - \tan 2x - \tan x$.

18. Solve the trigonometrical equation as given below

$(\sin x+\sin 3x+\sin 5x)=0$

OR

If $\pi/2 < x < \pi$ and $\sin x=1/4$, find $\tan x/2$.

19. Set A has three element and set B has six element. What can be the minimum number of element in the set $A \cup B$? Find also the maximum number of elements in $A \cup B$.

20. The second, third and fourth terms in the expansion of $(x+y)^n$ are 240,720 and 1080 respectively find the values of x,y and n.

21. Draw the graph of $f(x)=\begin{cases} 3-X, X>1 \\ 1, X=1 \\ 2X, X<1 \end{cases}$ and Find the range of 'f

OR

Draw the graph of $f(x)=\begin{cases} 1, X \geq 1 \\ X, -1 < X < 1 \\ -1, X \leq -1 \end{cases}$ Find the range of 'f.

22. Find the area of triangle formed by the lines joining the vertex of the parabola $x^2=-36y$ to the ends of the latus rectum.

23. Prove that $10^n+3.4^{n+2}+5$ is divisible by 9 by principle of mathematical induction.Where $n \in N$.

SECTION-D

24. From a group of 8 children, 3 girls and 5 boys; 3 children are selected at random.

Calculate the probabilities that the selected group contains:

1)no girls 2)only one girl

3)only one particular girl 4) no. of girls more than boys

25. Find the mean and variance for the following frequency distribution

Class	0-10	10-20	20-30	30-40	40-50
frequency	5	8	15	16	6

26. Find the derivative of

1) $\sqrt{Sinx}$

2) $\frac{x}{1+tanx}$

OR

Evaluate the limits of the following two functions of x

1) $\lim_{x\to 1}\left(\frac{x-2}{x^2-x}-\frac{1}{x^3-3x^2+2x}\right)$

2) $\lim_{x\to 0}\left(\frac{Sin4x}{Sin2x}\right)$

27. Find the length of the perpendicular drawn from the point $(\sqrt{a^2-b^2},0)$ and $(-\sqrt{a^2-b^2},0)$ to the line $\frac{x}{a}\cos\theta+\frac{y}{b}\sin\theta=1$. show that their product is b^2

28. Prove that $\cos^2 x+\cos^2(x+\frac{\pi}{3})+\cos^2(x-\frac{\pi}{3})=3/2$

29. Solve graphically the system of linear inequalities

$x+2y\leq 10$, $x+y\geq 1$, $x-y\leq 0$, $x\geq 0$, $y\geq 0$

******

05/3/2018

ATOMIC ENERGY CENTRAL SCHOOL NO 4, RAWATBHATA

ANNUAL EXAMINATION 2018

Subject: Chemistry

Time Allowed: 3 hrs Max Marks: 70

General instruction:

(i) All questions are compulsory.
(ii) Question no. 1 to 5 are very short answer questions and carry 1 mark each.
(iii) Question no. 6-10 are short answer questions and carry 2 marks each.
(iv) Question no. 11 to 22 are also short answer questions and carry 3 Marks each.
(v) Question number 23 carry 4 marks and question numbers 24 to 26 are long answer questions and carry 5 marks each.
(vi) Use log tables if necessary, use of calculator is not allowed.

QUESTIONS:

1. What is the oxidation number of S in $H_2S_2O_7$?
2. State Heisenberg's uncertainty principle?
3. How many significant figure are present in the following: 0.0025, 500.0, 2.0034, 128000?
4. Write electronic configuration of Cu metal (Z = 29) and Cr metal (Z = 24) in s, p, d.
5. State Dalton' s law of partial pressure?
6. Which out of NH_3 and NF_3 has higher dipole moment and why?
7. Which out of the following are Lewis acids?
   H_2O, BF_3, H^+, NH_4^+
8. Density of a gas is found to be 5.46 g/dm^3 at 27^0 C at 2 bar pressure. What will be its density at STP.
9. Derive a relationship between C_p and C_v for an ideal gas?
10. Write the conjugate acids for the following bronsted bases:
    NH^-_2, NH_3 and $HCOO^-$ and HCO^-_3.
11. The P^H of 0.004 M hydrazine solution is 9.7. Calculate its Ionization constant K_b and Pk_b.
12. Write chemical reactions to show
    (1) the amphoteric nature of water.
    (2) H_2O_2 acts as a oxidising as well as reducing agent.

13. State the principle of the following techniques taking an example:
(i) Steam Distillation
(ii) Chromatography

14. Balance the following redox reactions
(a) $Cr_2O_7^{2-} + SO_2(g) \longrightarrow Cr^{3+}(aq) + SO_4^{2-}(aq)$
(In acidic Medium)

(b) $MnO_4^-(aq) + I^-(aq) \longrightarrow MnO_2(S) + I_2(S)$
(In basic medium)

15. Give Reason:
(i) Lithium salts commonly hydrated and those of the other alkali metal ions usually anhydrous.
(ii) The solubility of alkaline earth metal hydroxides in water increase down the group.
(iii) The hydroxides and carbonates of sodium and potassium are easily soluble in water while the corresponding salts of magnesium and calcium are sparingly soluble in water. Explain.

16. Calculate the standard enthalpy of formation of $(CH_3OH(l)$ from the following data:
$CH_3OH(l) + \frac{3}{2}O_2(g) \longrightarrow CO_2 + 2H_2O$, $\Delta_r H^0 = -726$ KJ/mol
$C(s) + O_2(g)\ CO_2(g)$, $\Delta_c H^0 = -393$KJ/mol
$H_2(g) + \frac{1}{2}O_2(g) \longrightarrow H_2O(l)$, , $\Delta_f H^0 = -286$KJ/mol

17. Give reasons for:
(a) $[Si F_6]^{2-}$ is known whereas $[Si Cl_6]^{2-}$ is not known.
(b) Diamond is a covalent solid, yet it has highest melting point.
(c) CO_2 is a gas while SiO_2 is a solid at room temperature.

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

19. Write IUPAC names of the following compounds.
(a) $CH_3 - CH_2 - CH(OH) - CH_2 - CH_2 - CH(CH_3) - CH_2 - CH_3$
(b) $CH_3 - CH_2 - CO - CH_2 - CO - CH_3$
(c) $CH_3 - CH(Br) - CH_2 - CH_2 - COOH$

20. How would you convert the following compound into Benzene?
(i) Ethyne
(ii) Phenol
(iii) Benzoic Acid

OR

How would you convert benzene into following compounds?
(i) Toluene
(ii) Acetophenone
(iii) m-nitrochloro benzene.

21. Write short notes an:
(i) Green House effect
(ii) Green Chemistry
(iii) Photo Chemical smog.

22. What happens when:
(i) Magnesium is burnt in air
(ii) Quick lime is heated with silica
(iii) Chlorine reacts with slaked lime

23. At a sweet shop in Sitapur (UP), Sumit bought some sweets. He requested to seller to put the sweet box in a polythene bag. The seller refused to do so, instead he kept the sweet box in a paper bag. After reading the above passage answer the following.
(a) Why did seller refuse to put the sweet box in a polythene bag?
(b) AS a student of chemistry, why would you advocate the use of paper bags instead of polythene bags?
(c) Which value is promoted through the use of paper bags?
(d) Suggest one activities to promote these value?

24. (1) Out of benzene, nitrobenzene and toluene which undergo nitration most easily and why?

(2) Complete the following equation.

$(CH_3)_2C = CH_2 + H_2O \xrightarrow{H^+}$

$CH_3 - CH = CH_2 + HBr \rightarrow$

(3) Give a chemical test to distinguish between ethane and ethyne.

25. (a) Write reaction to justify amphoteric nature of aluminium.

(b) What are silicones?

(c) How can you explain higher stability of BCl_3 as compared to $TiCl_3$?

26. (1) Write short notes on:

(a) Common Ion effect

(b) Buffer solution

(2) Write the expression for Kc for the reaction

$$CaCO_3\,(s) \xrightarrow{Heat} CaO\,(s) + CO_2\,(g)$$

(3) A sample of HI (g) is placed in a flask at a pressure of 0.2 atm. At equilibrium partial pressure of HI (g) is 0.04 atm. What is the K_p for the given equilibrium?

$$2HI \rightarrow H_2\,(g) + I_2\,(g)$$

OR

(1) Write shorts notes on

(a) Solubility product

(b) Le-chatlier's Principle

(2) The concentration of hydrogen Ion in a sample of soft drink is 3.8×10^{-3} M. What is its P^H?

*****

Atomic Energy Central School No-4, Rawatbhata
Annual Examination, 2017-18

Class: XI **Subject Code No. 083**

COMPUTER SCIENCE

Time allowed: 3 hours ***Maximum Marks: 70***

Instructions:

i) Some questions are having OR option, write properly the selected option in the Answer Sheet before attempting it.
ii) Please check that this question paper contains 4 questions in 5 printed pages.
iii) Please write down the proper serial number of the question before answer it.
iv) Use programming language Turbo C++ and Windows.
v) While writing programs, plz write the name/title of the program selected in the heading. No need to write o/p.

Q.No. 1

a) Draw the block diagram and explain the functional units of Computer System. [3]

b) Give examples of System Software and Utility Software. [2]

c) What is booting process? [1]

d) Define the process management and name the various techniques used in the management. [2]

e) Define open source and freeware software? [2]

OR

Compare the RISC and CISC Processors?

f) Define any two of the followings: [4]

(i) Ports (ii) Cache (iii) ROM (iv) RAM

g) Expand the term: ASCII, DVD, CISC, EPIC [2]

h) Convert the following numbers: [2]

i) $(574)_8 = (?)_{10}$

ii) $(897)_{10} = (?)_8$

iii) $(B1.B9)_{16} = (?)_2$

iv) $(10101.110)_2 = (?)_{10}$

Q.No. 2 Solve the following Questions :

(a) Explain types of errors occurs in C++ programs, with examples? [2]

(b) What are the stylistic guidelines used in the C++ programs? [2]

(c) State the precise steps of problem solving methods used in the C++. [2]

(d) Draw a flow chart to print the grade of student. Enter the per% mark of a student and find its grade, if marks>=90 then grade is 'A', if 90>marks>=60 then grade is 'B' otherwise grade is 'C'. [3]

OR

Draw a flow chart to print the series 1 2 3 4.....100.

Q.No. 3

a) Write a short note on any one of the following: [2]

(i) operators (ii) Tokens (iii) Comment Lines

b) Write the following algebraic expression into C++ expressions: [2]

(i) Z = √(2X+3Y) (ii) r1 =

c) Write the output for the following: [2]

(i) -2 || 0 && 1 || -4 && 0

(ii) (5!=5) ? (cout<<"NOT EQUAL") : ((12/4 = =3)? cout<<"EQUAL" : cout<<"CAN'T SAY");

d) Write the output for the following program code:

(i) [1]

```
void main()
{  int a = 5, b, c, d;
        b= ++a*3;
        c= b++ *  --a;
        d = ++c + --b;
        cout<<a<<" "<<b<<" "<<c<<" "<<d;
}
```

(ii) [2]

```
char outer, inner;
for(outer = 'F'; outer >= 'A'; --outer)
{     for( inner = 'A'; inner <= outer; inner++)
          cout<<inner<<" ";
   cout << endl;
}
```

(iii) [2]

```
int stock[ ]={10, 12, 15, 19, 18};
 int total=0;
 for(int i = 0; i<5 ; ++i)
 {    if(stock[i]%2 != 0)
          total += stock[i];
 }
 cout<< "Total= " << total<<endl;
```

(iv) [2]

```
void execute (int  &x, int  &y)
{ int Temp= x + 2*y;
   x += Temp;
   y += Temp;
}
void main()
{  int a=25, b=35;
   execute(a,b);
   cout<<a<<":"<<b<<endl;
}
```

(v) void main() [1]

```
{  int a=0, b;
   char Str[25] = "C++-TC03-2018" ;
   for(b = 0; Str[b]!='0' ; b++)
      if( isdigit(Str[b]) )
         a++;
  cout<<"No of digits="<<a<<endl;
}
```

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

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

[i] What is life time and scope of variable a and x?

[ii] Which variable is a global in the above program? What is the life time of that variable?

f) Write the header files required to run the following program. [2]

```
void main()
{  int x, y, z;
   cin>>x>>y;
   if(isdigit(y))
     z= pow(x,y);
   cout<<z;
   getch();
}
```

Q.No. 4 a) Define structure, give syntax to define and initialize? [2]

OR

Give syntax to define a string and initialize it with "My India"?

b) What is a sub program function, explain the various categories of Sub-program functions. [3]

c) Write programs in C++ for the followings:

i) Enter a number and check, whether it is even or odd number? [2]

ii) Enter the distance to be travel by a taxi and calculate the total fare, where the basic price is ' 17.5 per KM and a fixed surcharge is ' 20. Display the details at output, like distance traveled, basic price, surcharge and total fare. [3]

iii) Print the sum of series: $1 + x + x^2/!2 + x^3/!3 + \ldots\ldots\ldots\ldots x^n/!n$ [3]

OR

Print the following pattern:

5 4 3 2 1

4 3 2 1

3 2 1

2 1

1

iv) Enter 10 numbers in an array and display the array elements by using a separate function Disp (), which will print all elements which are divisible by 5, along with their sum. [5]

OR

Enter a string and find how many alphabets, digits, punctuation mark and any other characters in the string by using a separate function Strig (). The function will display the details at output.

v) Define a structure *Club* with elements MemID (ID), Name, Activity, Fees to store the list of club members with the name of activities. Enter 3 member's record of Club type and print the Records having Activity "Swimming". [4]

OR

Define a structure *Stud* with elements Rollno, Name, Class, Fees. Enter a list of 5 Students and print the Records of students who are in Class "XII".

vi) Enter a string and find its reverse string, also check that is it a Palindrome string or not? [3]

OR

Enter two numbers and pass them to a function Swap, the function will swap their values. The main function will display the values at o/p.