DELHI PUBLIC SCHOOL, BHILAI
First Term Examination - 2017

Class – XI Subject –Informatics Practices

Dt: 18.09.17

Time : 3 Hrs

MM : 70

General Instructions :
- All questions are compulsory.
- There are three Sections. Section "A" carries 15 marks, "B" 40 marks and Section "C" 15 marks.
- Take necessary control name wherever it is required.

Section - A

Q1. a. What do you understand by BIOS? What role does it play for a computer system? **(2)**

b. Give name of two utility software. **(1)**

c. Sort out the input devices from the given list of peripherals. **(1)**
PD, Smart Card Reader, Plotter, Joystick, Biometric Sensor

d. Explain operation of control unit of Central Processing unit.. **(1)**

Q2.a. Explain following terms - **(1x3=3)**
i. Touch Screen ii.Graphic Tablet iii.MICR

b. Write strength and weaknesses of a computer. **(1)**

c. What do you understand by an "Operating System" software? Name different types of OS available. **(2)**

d. Distnguish following with atleast two points - **(2x2=4)**
a) Impact Printer, Non Impact Printer
b) Bar code reader, Biometric Sensor

Section – B

Q3.a.i. What output will be displayed in the textfields or in output window by the following program segment. **(2x3=6)**

```
char x='p';
switch(ch)
    {  case'q' : txt.setText(" Grade A");
       case 's': txt.setText(" Grade B");
       case'm': txt.setText(" Grade C");
              break;
       case'p' : txt.setText(" Grade D");
       default : txt.setText(" No Grade ");
       }
    tx2.setText("End ");
```

ii.
```
String s1="Campus", s2="Selection" ;
System.out.println(s1.concat(s2));
System.out.print(s2+'\t'+"Care\n");
```

iii.
```
int nood=1,noev=2, no=11;
if(no%2==0)
{
noev=noev+no;
System.out.println(" "+ noev++);
}
System.out.println(" "+ --no);
System.out.println(" "+ no);
```

b. Explain the following terms - (1x4=4)
  i. IDE   ii.ByteCode   iii. Keyword   iv. Identifier

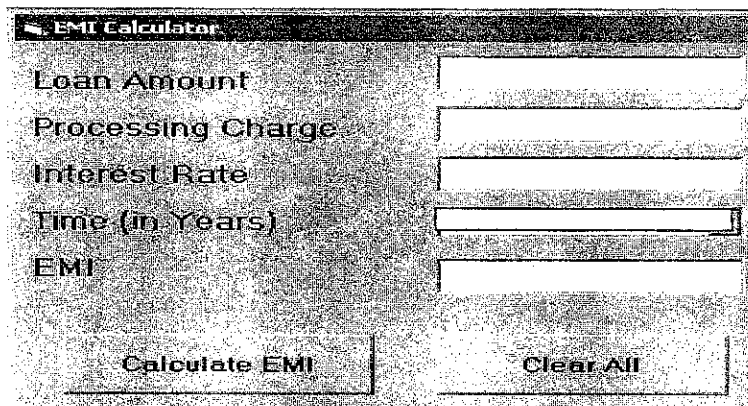**Q4.a. Find out syntax error(s) in the given code snippet and rewrite corrected one-** (2x3=6)
  i.   int m1, n1

```
(m1= = n1)
txt.setText("We got same marks");
else;
System.println()." We did not get same marks";
```

  ii. Double x,

```
tm=Double.parseDouble(tx1.get( ));
y=x*30+tm;
tx2.set(" " , y);
```

  iii. a=10, b=20;

```
if(a>= =b)
System.out.print("No is "+a)
Else
System.print(" No is  " +b);
```

b. Explain four different properties of jTextfield control used in Netbeans IDE. (2)

c. What is logical operator in java? Explain each with suitable example. (3)

d. What do you understand by "Event" and "Widgets" in Java IDE. (1)

e. Explain the utility of JOptionPane Dialog box with example. Which package is to be imported
for working with it. (2)

Q5.a. Read the following case study and write a java code to answer the questions followed- (4+1)
Programmer of **"SAHAYAK BANK"** has developed a java form for calculating EMI to be paid by
customers against repayment of loan. When rate of interest as per loan amount is given below and
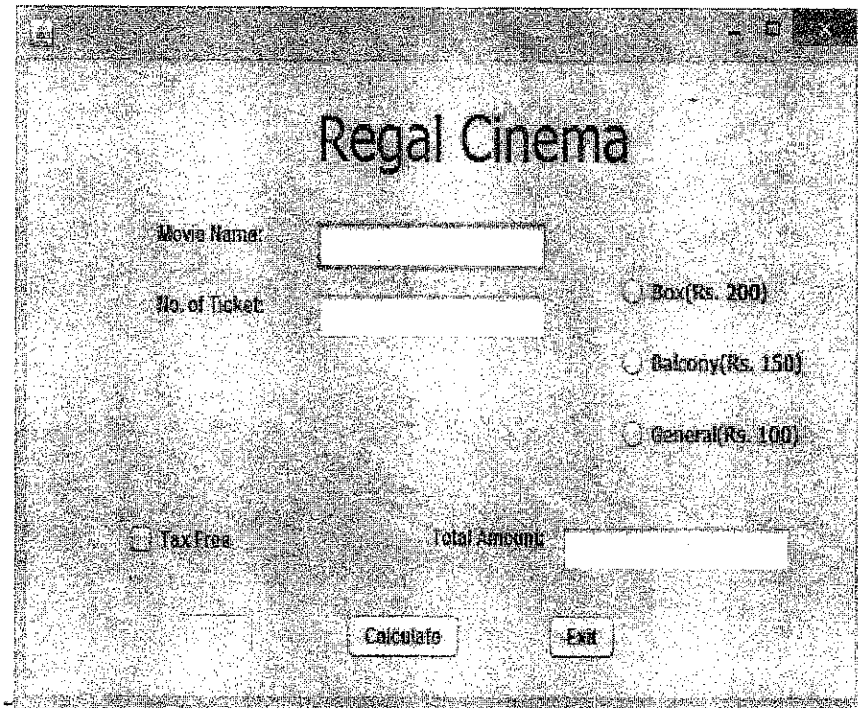Loan amount, Processing charge, Time period are given by user at run time-

i) Give code to calculate EMI using the formula given below, when user clicks on the button **"Calculate EMI"**

$$EMI=\frac{(Loan\ Amount+Processing\ Charge\ +Amount\ of\ Interest)}{(Time * 12)}$$

also display EMI in the given textfield (shown in screenshot). Take all necessary controls name.

ii) Give java code to clear all textfields.

b) "Regal Cinema" has computerized its ticket booking system. The programmer has designed a GUI application in Netbeans as shown below - **(1+4+1)**

At ticket counter, three types of seats (Box,Balcony and General)at the rate of 200,150 and 100 respectively, are available. If the movie is Tax Free, then the total amount should be deducted by Rs 25 per ticket. Write code to do the followings:

(i) What should be done so that only one of the radio buttons (Box, Balcony and General) can be selected at a time.

(ii) Calculate and display the Total amount in the corresponding text field when calculate button is pressed.

(iii) Close the application when **"Exit"** button is clicked.

c) Explain following with example - **(2x2=4)**
      i) setEditable( )   ii) getText( )
d) What is the utility of Inspector window in Netbeans IDE? **(1)**

Section - C

Q6.a) What is DBMS? Write its characteristics. **(2)**

b) What do you understand by "DDL" and "DML" commands in SQL. Explain with suitable example of each. **(2)**

c) Consider the table CRICKET given below .Write the commands in SQL for (i) to (vi) (6)

TABLE CRICKET

S.NO	PLAYER	AGE	CITY	RUNS	WICKETS
1	Sachin Tendulkar	39	Mumbai	15216	100
2	VirenderSehwag	37	Delhi	6244	80
3	M.S.Dhoni	32	Rachi	5219	
4	Rahul Dravid	37	Banglore	9325	10
5	Yuvraj Singh	32	Mumbai	8244	120

(i) To display all the information about the players who lives in Mumbai city.

(ii) To display Players name, age and runs who have scored more than 8000 runs but Wickets taken are not more than 50.

(iii) To display Player name and city of those players who have not taken any wickets

(iv) To display structure of the table.

(v) To display only name and age of all players.

(vi) Display those cricketer's name who made runs more than 10000.

Q7.a) Explain following terms - **(3)**

    i) Primary Key i) Candidate Key iii) Tuple

b) Write SQL Command to create the table **"Toys"** with the following structure - **(2)**

Table: Toys

Column Name	Data Type(Size)
Toy_no	Int (10)
Toy_name	Varchar (20)
Type	Char (10)
Price	Double (8, 2)
Colour	Varchar (15)
Stock	Int(3)

DELHI PUBLIC SCHOOL, BHILAI

First Terminal Examination, 2017

English (Core)

Class: XI

Maximum marks : 80

Date : 15-09-2017

Duration : 3 Hours

GENERAL INSTRUCTIONS

- The paper is divided into three sections : A, B and C. All the sections are compulsory.
- Specific instructions, wherever necessary, are given. Follow them strictly.

SECTION A : READING SKILLS   20

Q 1. Read the passage given below and answer the questions that follow: 12

[1] Time was when even wild horses could not drag me within miles of a barber's shop or salon as it is called nowadays. Those were the days when the hippie cut held sway and a close cropped guy was an exception. Yet, even in those days civilization was measured by the length of your locks and I was no exception. Much water has flowed under the bridge since then. In recent times, I begin to yearn for the barber's ministration the moment my hair kisses my ears. But then there is another reason for this yearning and that is my barber Salim. He is more educated than me, having done his Masters in literature with a first class first, capable of quoting Chaucer and Byron with equal felicity as he can Raja Rao and Narayan. He had been an English Professor for a couple of years, but when his father, who ran the salon, kicked the bucket he found that it was good economics to make the switchover.

[2] Salim's salon was one with a difference. A big signboard announced that politics was a taboo. Salim once enlightened me on this, recalling that he had sent a customer packing though only half of his hair had been cut because he had dared to take a political stand, which to add insult to injury, was contrary to Salim's viewpoint. I once asked him, "Don't you miss all those students whom you were teaching English Literature? I have heard a couple of them were the best among the lot." "Not at all," said Salim, without batting an eyelid, "they might no longer be my students but they are my customers now. And I do manage to clear a doubt or two when they come for a sitting." It was then that I realised that the barber's itch for literature had not dampened one bit though combs and scissors had replaced his original tools of trade.

I. On the basis of your understanding of the passage, answer the following questions by choosing the most appropriate option.   (1 x 6 = 6)

1. In earlier days civilization was measured by
   a) wild horses
   b) length of hair locks
   c) number of cropped guys
   d) number of salons in town

2. Salim switched over from professor to barber because
   a) of his family pressure
   b) of his passion for this profession
   c) of his students' advice
   d) It was good economics

3. Salim considered politics
   a) to be a taboo
   b) to be having liberality
   c) he had no viewpoint about politics
   d) to be good and essential for everyone

4. 'Kicked the bucket' means
   a) to harm and humiliate
   b) died
   c) past events that are over or done with
   d) to show no surprise or concern

5. Was Salim still in touch with his students?
   a) No, he was not in contact with them
   b) Yes, he met them occasionally but never solved their problems
   c) He cut their hair and solved their doubts
   d) He used to take extra classes for them

6. The writer admired Salim as he
   a) was more educated
   b) had received his Masters degree in first class
   c) was well versed in Indian and English Literature
   d) all of the above

II. Answer the following questions: (1 x 4 = 4)
   1. Why was it an exception to find a close cropped guy?
   2. Why does the writer get his hair cut frequently?
   3. What was different about Salim's salon?
   4. Salim once sent a customer away with only half his hair cut. Why?

III. Which word/phrase in the passage means the same as the following: (1 x 2 = 2)
   1. help or care (para 1, one word)
   2. without showing an emotional reaction (para 2, phrase)

Q 2. Read the passage carefully and answer the questions given below.   (8)

It's a headache having a headache. Almost all of us have suffered from a headache at some time or other. For some a headache is a constant companion and life is a painful hell of wasted time.

The most important step to cope with headaches is to identify the type of headache one is suffering from. In tension headaches (two-hand headache), a feeling of a tight band around the head exists along with pain in the neck and shoulders. It usually follows activities such as long stretches of driving, typing or sitting at the desk. They are usually short lived but can also last for days or weeks.

A headache is usually caused due to the spinal misalignment of the head, due to poor posture. Sleeping on the stomach with the head turn to one side and bending over positions for a long time make it worse.

In migraine (one-handed headache), the pain is usually on one side of the head and may be accompanied by nausea, vomiting, irritability and bright spots or flashes of light. This headache is made worse by activities especially bending. The throbbing pain in the head gets worse by noise and light. Certain triggers for migraines may be chocolate, caffeine, smoking or MSG in certain food items. The pain may last from eight to twenty four hours and there may be a hangover for two or three days.

Migraines are often preceded by an 'aura' - changes in sight and sensation. There is usually a family history of migraine.

In a headache, the pain originates not from the brain but from the irritated nerves of muscles, blood vessels and bones. These send pain signals to the brain which judges the degree of distress and relays it at appropriate sites. The pain sometimes may be referred to sites other than the problem areas. This is known as referred pain and occurs due to sensation overload. Thus, though most headaches start at the base of the skull, referred pain is felt typically behind the eyes.

Factors causing headache are not fully understood but it is known that a shift in the level of body hormones and chemicals, certain foods and drinks and environmental stress can trigger them.

If the headache troubles you often, visit the doctor, who will take a full health history relating to diet, lifestyle, stresses, the type of headache, triggering factors and relief measures. You may be asked to keep a 'headache diary' which tells you to list – the time headache started, when it ended, emotional environmental and food and drink factors which may have contributed to it. The type and severity of pain and the medications used which provided most relief are also to be listed. This helps the doctor in determining the exact cause and type of headache and the type of drugs to use. Apart from this, a physical examination is done to rule out any serious underlying cause.

Tests will be conducted to rule out causes such as tumors, haemorrhage and infection of the brain. This gives a clear picture of the problem to the doctor.

Immediate relief can be obtained by certain medications and a few simple self-care techniques. Using ice against the pain site, covering eyes with dark glasses, drinking plenty of fluids and lying down in a dark and quiet room, provide relief in a migraine attack. Painkillers like aspirin, ibuprofen and crocin can be taken and provide relief in different proportions. These should be used with caution and under medical supervision. If used for long periods and in large quantities, all of them can cause many side effects.

(a) Make notes on the passage in an appropriate format, using at least four abbreviations and symbols. Suggest a suitable title as well. (5)

(b) Write a summary of the passage in not more than 80 words. (3)

SECTION-B : WRITING SKILLS AND GRAMMAR 30

Q.3 Fast food counters are mushrooming in every town and city. Though fast food is fast to cook and fast to eat, it is also fast to kill. Make a poster on the topic 'Fast Food – A great health hazard'. (4)

OR

Your school, Amity Public School is organising a SPICMACAY programme on the occasion of World Dance Day wherein renowned Bharatanatyam dancer, Sonal Mansingh would be giving a lecture demonstration. As the President, Cultural Society of your school, draft a notice in about 50 words, informing the students about the same. You are Rakshita/Rohit.

Q.4 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. Many species of aquatic life are disappearing. Visitors also litter the area. You spoke to the local authorities, but no action has been taken so far. Write a letter to the Editor , The Hindu, drawing the attention of the Municipal Corporation of Delhi , towards this problem. You are Somesh / Somakshi, 12 MG Road, Gurgaon. (120-150 words) (6)

OR

You are Manish/Manisha Verma, living at 59, Saraswati Enclave, Sector 9, Rohini, New Delhi. You wish to make a pilgrimage to Badrinath and Haridwar with your family of four members. Write a letter to *Ideal Pilgrims Tours and Travels*, D-22, Connaught Place, New Delhi; enquiring about the schedule of their conducted tours by deluxe buses to these places. Ask about the charges, boarding and lodging arrangements and the duration of the tour.

Q.5 You are Manav/Mansi. You have been hearing a lot about Yoga and its magical powers and health benefits. Write an article of 150-200 words for your school magazine on the topic 'Benefits of Yoga'. (10)

OR

Road accidents are a common sight. People are often seen shouting at and threatening people who have annoyed them on the road. Even overtaking them can enrage them. Write a speech on the topic 'Road Rage' in about 150-200 words.

Q.6 The following passage has not been edited. There is one error in each line. Write the incorrect word and correction in your answer sheet as given below, against the correct blank. ($^1/_2$ X 8 = 4)

	INCORRECT	CORRECTION
(a) The fact which we sometimes forget is	(a)_____	_____
(b) that we human being are also a part of	(b) _____	_____
(c) nature. We may live on tall cement	(c) _____	_____
(d) buildings, we may travelling in cars and	(d) _____	_____
(e) aeroplanes, but cannot live with food,	(e) _____	_____
(f) water and air. If we continue pollute our	(f) _____	_____
(g) water resources, soil and air, we will soon finding	(g) _____	_____
(h) that all our computers and LCDs will help us to survive.	(h) _____	_____

Q 7. Transform the sentences as directed : (1 x 3 = 3)

(a) People are blaming climate change for all the floods. (Change into Passive Voice)
(b) They still deny women the right to vote in the company.(Start with 'Women')
(c) What was bought by you? (Change into Active Voice)

Q 8. Rearrange the following words/phrases into meaningful sentences. (1 x 3 = 3)

For example: the/Indian/ English/ exploited/ the/ farmers
The English exploited the Indian farmers.
(a) pay/ the/ had to/ poor farmers/ high taxes/ very
(b) natural disasters/ farmers/ share of taxes/ even/ pay/ their/ in times of/ the/ had to
(c) cultivate/ they/ asked them to/ had to/ those/ which/ crops also/ the English

SECTION-C: LITERATURE AND LONG READING TEXT 30

Q 9. Read the following extract and answer the questions that follow : (1 x 3 = 3)

I descend to lave the droughts, atomies, dust-layers of the globe,
And all that in them without me were seeds only, latent, unborn .

a. Who does 'I' refer to here ?
b. Explain the role of 'I' in the above stanza.
c. How is everything unborn without 'I' ?

OR

Some twenty-thirty-years later
She'd laugh at the snapshot.
"See Betty and Dolly", She'd say, "and look how they
dressed us for the beach." The sea holiday
Was her past, mine is the laughter.
Both wry with the laboured ease of loss.

a. Who is 'she', referred to here ?
b. Why would she laugh at the snapshot ?
c. Why does the poet say, "The sea holiday was her past, mine is her laughter"?

Q 10. Answer **any three** of the following questions in 30-40 words, each . (3 x 3 = 9)

a. How does Shyama play an important role in Ranga's marriage ?
b. In the poem 'The Voice of the Rain', why and in which form does the rain call itself impalpable?
c. Based on the story, 'We're not Afraid to Die...if We Can All Be Together', explain how life teaches us lessons when we are face-to-face with death.
d. Why did the narrator of 'The Address', decide to forget the address?
e. What was the turning point in the friendship of Khushwant Singh and his grandmother?

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

The story, 'The Summer of the Beautiful White Horse' conveys the message of honesty and integrity. How do the characters maintain these qualities inspite of their desire to keep the horse with themselves?

OR

The lesson 'Portrait of a Lady' suggests a growing distance between the younger and older generation. Comment.

Q 12. Answer the following question in 120-150 words. (6)

Why did the ghost feel insulted when Mr. Otis attempted to offer him a lubricant? What do you think about the situation?

Q 13. Answer the following question in 120-150 words. (6)

The Twins are an epitome of laughter, pranks and fearlessness. Analyze their character on this basis.

****

NOTE :

1. All questions are compulsory.
2. Question paper consists of **6** questions.
3. Answer questions sequentially.

Q1.

1. What do you mean by Firmware and Liveware.   1
2. How is an Interpreter different from a Compiler? Mention any two points.   1
3. Differentiate Third Generation and Fourth Generation Computers. Write any three points.   3
4. State the difference between Freeware and Free Software.   1
5. Write examples of one Propietary and one Open source Software.   1
6. Define Operating System. Write any four functions of Operating System.   (1+2)
7. What is Booting Up? What are the types of booting, explain in brief?   (1+2)
8. Write the difference between Preemptive and Non-preemptive Scheduling. Give example of each.   2

Q2.

1. Convert the following Binary numbers to Decimal numbers.   3
    a) 11001101
    b) 10011111
    c) $(1101.0011)_2$
2. Convert $4A8C_{16}$ to Binary.   1
3. Convert the following Octal numbers to Decimal numbers.   2
    a) $(135)_8$ b) $(567)_8$
4. Convert Decimal to Binary equivalent   2
    a) 108   b) 212.21
5. a) Two's complement of −49
    b) Two's complement of 118

Q3.

1. What is the difference between a keyword and an identifier?   1
2. Define Runtime error and Syntax error. Give example of each.   2
3. Find the error(s)   2
    a) cin>>"\n">>x;
    b) cout <<\n "abc";
    c) break = a − b;
    d) m=10 , b=20 ; z=30
4. Are the following two statements equivalent?   1
    char grade=65;
    char grade=' A';
5. What are user defined data types? Mention any two.   2
6. Name the header file(s) essentially required to be included to execute the following code?   1
    void main( )
    {
    ```
    int  x=5;
    for (int i=2; i<=x; i++)
          cout<< i  << " : "<< pow(x,i) <<endl;
    ```
    }

7. Give the output for the following (assume all header files included) 1.
   ```
   cout.setf(ios::fixed);
   cout.setf(ios::showpoint);
   cout<<setprecision(3);
   cout<<4.56789;
   ```

8. List any four fundamental data types as per C++11. 2

Q4.

1. Given – 1
   unsigned x=0 , y=15;
   What will be the result of following expressions?
   a) x && y   b) !(!x)

2. Given – 2
   char ch;
   short sh;
   int val;
   long longval;
   float fl;
   Identify the data type of the following expressions.
   a) val * longval – ch ;
   b) fl + longval / sh ;

3. Evaluate a + = a + (++a) if a = 20 initially. 1

4. Evaluate the following expressions – 2
   i) $x - y < z$ && y+ z > x || x – z <= y – x +z
           if x=4 , y=7 and z=10
   ii)   (y) &&(y – z) || !(2*y + z – x)
           If x=13 , y=14 and z=5

5. Give the difference between type casting and automatic type conversion. Also 2
   Give suitable examples to illustrate.

6. Write a program to input principal amount and time. 2
   If time is more than 10 years calculate Simple interest with rate 8% otherwise
   calculate it with rate 12% per annum.

Q5.

1. Write a Program to input a digit and print it in words. 2

2. Write a program to check whether a number is Prime or not. 2

3. Write a program to find the sum of the following – 2

$$x - \frac{x^2}{2!} + \frac{x^3}{3!} - \frac{x^4}{4!} + \frac{x^5}{5!} - \frac{x^6}{6!}$$

4. Write a C++ program to do the following – 3
   i)   read an integer X
   ii)   form an integer Y by reversing the digits of X
   iii) an integer S having sum of digits of X
   iv)   output Y and S
   [For example if X=5076 then Y =6705 and S=18]

5. Write a program to find the greatest of three numbers. 2

6. Write a program to produce the following pattern –   2

   A

   A B

   A B C

   A B C D

   A B C D E

7. What will be the output produced by the following codes assuming all declarations
   done –   2
   a) for (outer=0;outer<2;++outer)
         for(inner=0;inner<=3;++inner)
               cout<<outer<<"\t"<<inner<<endl;
   b) long num=5572331,res=0;
      do
      {
         res*=10;
         int d = num%10;
         res+=d;
         num/=10;
      }while(num>0);
      cout<<"output="<<res<<endl;

Q6.
   1. Define function. Write types of function.   2
   2. Write a C++ function that intakes two arguments a character and an integer   2
      And prints the character given number of times. If however the integer is missing,
      the function prints the character twice.
   3. Write the difference between formal parameters and actual parameters   2
      with example.
   4. Write a C++ function **sumf(a,n)**, to sum n natural numbers starting from a given 2
      number a and return the sum.

                        ****

DELHI PUBLIC SCHOOL, BHILAI (C.G.)

DATE : 13-09-2017   **FIRST TERM EXAMINATION, 2017**   **Time: 3 Hours**

CLASS : XI   **BIOLOGY**   **M.M : 70**

No. of Pages Printed : 2

<u>General Instructions</u> :

i) All questions are compulsory and answer serially.

ii) The question paper consists of five sections A,B, C,D and E. Section A contains 5 questions of 1 mark each. Section B is of 5 questions of 2 marks each. Section C is of 12 questions of 3 marks each. Section D has a value based question of 4 marks, whereas Section E is of 3 questions of 5 marks each.

iii) There is no overall choice. However, an internal choice has been provided in one question of 2 marks, one question of 3 marks and three questions of 5 marks weightage. A student has to attempt only one of the alternatives in such questions.

iv) Wherever necessary, the diagrams drawn should be neat and properly labelled.

SECTION A

1. Expand ICBN. (1)
2. Give one evidence to show that viruses are smaller than bacteria. (1)
3. Name one pteridophyte each that produce homospores and heterospores. (1)
4. What is the skeleton of Poriferans made of? (1)
5. Name the part shown at (A) and (B) in the diagram. (1)

SECTION B

6. How is valvate aestivation different from twisted aestivation? Explain with a diagram. (2)
7. Museums and Zoological parks are both taxonomical aids; yet, how do they differ from each other? (2)
8. Mention the criteria used for classifying Kingdom Fungi into classes. (2)
9. Write an account on gemmae of liverworts. (2)

(OR)

Draw a well labeled diagram of a Funaria plant. (2)

10. Give examples for : (2)

   a) Two cnidarians and that are like polyps and two like medusa.
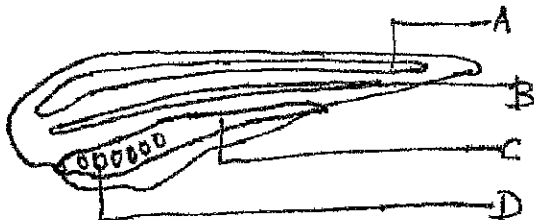
   b) One cnidarian that has both polyp and medusa.

SECTION C

11. Define a taxon. Give some examples of taxa at different hierarchial levels. (3)
12. Describe the three groups of Archaebacteria. (3)
13. Kingdom Protista is considered an artificial assemblage of organisms. Justify. (3)

(OR)

How do slime moulds resemble fungi? Explain the changes that take place in slime moulds during favourable and unfavourable conditions. (3)

14. Differentiate between red algae and brown algae. (3)
15. a) Some of the membranous organelles are considered together as endomembrane system. Give reason. (3)

   b) Mention the differences between the two kinds of endoplasmic reticulum.

16. Label the parts A,B,C and D in the diagram of the hypothetical chordate given below : (3)

Explain about the location of 'B' in a cephalochordate and urochordate.

17. What are pneumatophores? How do they help the plant? Give an example. (3)

18. Classify the following animals according to their phylum and give one important feature of the phylum : (3)

     a) Nereis (b) Ascaris (c) Euspongia

19. Explain diplomatic life cycle in plants. Give an example. (3)

20. (a) Why are gymnosperms called naked seeded plants?

    (b) The tap root system of Pinus and Cycas show symbiotic association. Explain.

21. Petromyzon, Scoliodon and Labeo are all fishes; but they are placed in three different classes under Chordata. (3)

    (a) Name the classes to which they belong.

    (b) How does Petromyzon differ from the other two?

    (c) Enlist two external characteristics which help in classifying Scoliodon and Labeo under different classes.

22. Justify that ginger, colocasia and potato are stems and sweet potato is a root though it is non green and underground. (3)
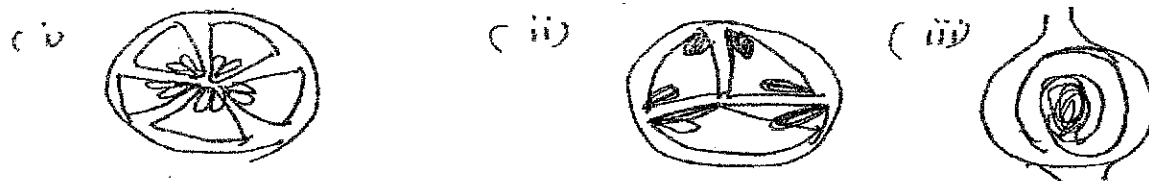
SECTION D

23. When we try to define 'living' we look for certain distinctive characters exhibited by living organisms; they include growth, reproduction, ability to sense the environment and respond, interact, metabolism, etc. (4)

    (a) Certain properties like growth and reproduction cannot be taken as overall defining characters of living organisms. Give reasons.

    (b) Mention two characters that can be the defining properties of life forms.

    (c) What value do you attach to 'living'?

SECTION E

24. Describe the arrangement of floral members in relation to their insertion on thalamus. (5)

(OR)

(a) What is placentation? Name the type of placentation shown in the given figures (i), (ii) & (iii). Give one example of each type.

(b) Define the following terms :

    (i) Syncarpous (ii) epipetalous and (iii) zygomorphic

25. Interphase is the most active stage in the cell cycle. Explain the events taking place during this phase. (5)

(OR)

Describe the following stages of cell division. Draw diagrams wherever necessary.

    (a) Metaphase in mitosis

    (b) G_o phase

    (c) Pachytene of Prophase I in meiosis

26. What is coelom? Explain the different types of coelom with diagrams. (5)

(OR)

Is maize a seed or a fruit? Justify. Explain its structure with a labelled diagram.

****

DELHI PUBLIC SCHOOL, BHILAI (C.G.)

DATE : 22-09-2017 FIRST TERM EXAMINATION, 2017 **Time : 3 Hours**
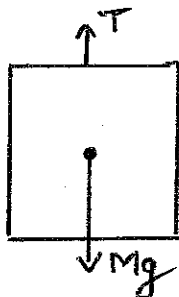
CLASS : XI **PHYSICS** **M.M : 70**

General Instructions –

i) All questions are compulsory.

ii) Questions 1 to 5carry one mark each, questions 6 to 10 carry two marks each, questions 11 to 22 carry three marks each, question no.23 carries four marks and questions 24 to 26 carries five marks each.

iii) There is no overall choice. However, an internal choice has been given in one question each in question of 2 marks & 3 marks and in all questions of 5 marks. You have to attempt only one question in such case.

iv) Use of calculator is prohibited.

SECTION A

1) Mention two physical quantities which has the dimensions$[M^1L^2T^{-2}]$.   1

2) Can a body have zero velocity, but still accelerating? Justify.   1

3) 'Gravitational force is a conservative force'.Justify   1

4) A person sitting in the compartment of a train moving with uniform speed throws a ball in the upward direction returns back to his hands. Explain its trajectory.   1

5) State polygon law of vector addition.   1

6) If the position of a body is given by ' x' = $(3t^2-2t+1)$ m, Find its velocity & acceleration at t =2s.Name the type of motion described by the body.   2

7) What will be the acceleration of an elevator of weight 3000kg,when tension in the supporting cable is 33000N.(g=10ms^{-2})   2
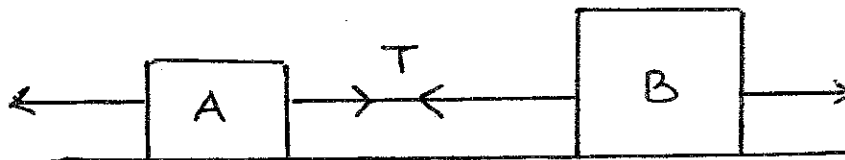

8) In the relation force on a body is given by F=kv^2 where "v" is velocity of the body. Find the dimensions of 'k'.
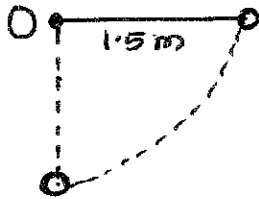
OR

Check the correctness of the relation dimensionally, $v = \frac{1}{2\ell}\sqrt{T/m}$ where v is frequency 'l' length of the string,'T' tension and 'm' mass per unit length of the string.   2

9) Two bodies A & B of masses 10 kg and 20 kg respectively kept on a smooth, horizontal surface are tied to the ends of a light string. A horizontal force F = 600 N is applied to (i) A and (ii) B along horizontal direction as shown in figure. What is the tension in the string in each case ?
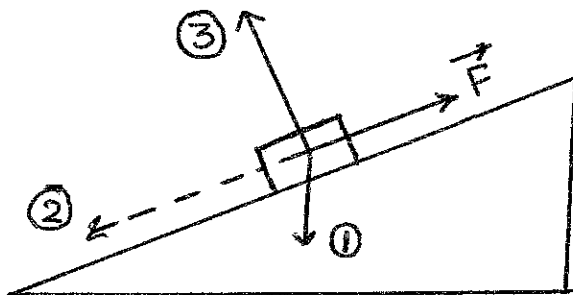

  2

10) Find the value of 60W on a system which has 100g, 20cm and 1 min as the fundamental units.   2

11) a) Define impulse.

b) An object of mass 2kg has an initial velocity of $\vec{u} = (3\hat{\imath} + 4\hat{\jmath})ms^{-1}$ and final velocity $\vec{v} = (-3\hat{\imath} - 4\hat{\jmath})ms^{-1}$

after being hit .Find out the magnitude of impulse.   3

12) a) A physical quantity X is as follows, X=$A^3B^2/C^{1/2}D$.The percentage error in measurement of A,B,C&D are 1%, 3%,4% & 2% respectively. What is the percentage error in X?   3

b) If initial & final temperature of a substance is $\theta1 = (27 \pm 2)^oC$ & $\theta2 = (40 \pm 3)^oC$, Find the maximum permissible error in the estimation of rise in temperature.
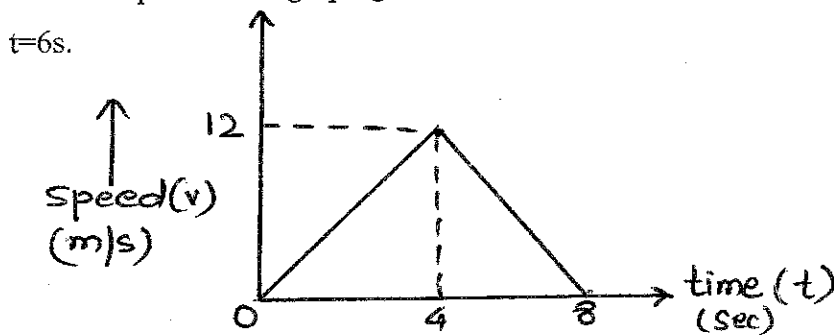
13) On a two-lane road, car A is travelling with a speed of 36 km h⁻¹. Two cars B and C approach car A in opposite directions with a speed of 54 km h⁻¹ each. At a certain instant, when the distance AB is equal to AC, both being 1 km, B decides to overtake A before C does. What minimum acceleration of car B is required to avoid an accident ? 3

14) a) Using method of calculus, derive the following equation,
$v^2 - u^2 = 2as$ where symbols have their usual meanings. 3
b) A ball is thrown vertically upwards with a velocity of 20 ms⁻¹ from the top of a multi-storey building. The height of the point from where the ball is thrown is 25.0 m from the ground. How long will it take before it hits the ground?

15) A small object tied to one end of a string is whirled in a vertical circle. Find the tension & velocity at the at the lowest point. 3

16) If frequency (v) of oscillation of a drop of liquid depends upon surface tension (S), radius (r) of the drop and the density (d) of the liquid. Deduce the relation for frequency (v) on the basis of dimensional analysis. 3

17) a) ' During free fall, total mechanical energy is always conserved'. What does it mean?
b) The bob of a pendulum is released from a horizontal position. If the length of the pendulum is 1.5m, what is the speed with which the bob arrives at the lowermost point, given that it dissipates 5% of its initial energy against air resistance ? 3

18) Define angle of friction and angle of repose and establish relation between them. 3

19) A wooden block of mass 3kg is just about to move up the surface of rough inclined plane at an angle 30° by the a force F as shown in figure. a) Name the forces (1, 2 and 3). b) If coefficient of static friction is 0.2, determine the value of the three forces. 3

20) a) Draw a position - time graph for a body, when $x_0 = 0$ and a = –ve 3

b) From the speed- time graph given below ,find the distance moved by a particle from t= 2 s to t=6s.

21) a) Define unit vector. What is its importance?

b) Find a unit vector perpendicular to the vectors $\vec{A} = 4\hat{i} - \hat{j} + 3\hat{k}$ and $\vec{B} = -2\hat{i} + \hat{j} - 2\hat{k}$. 3

OR

a) Define zero vector. What is its importance?

b) Find the angle between the vectors $\vec{A} = (\hat{i} + 2\hat{j} - \hat{k})$ and $\vec{B} = (-\hat{i} + \hat{j} - 2\hat{k})$.

22) a) State work energy theorem. 3

b) A body constrained to move along the z-axis of a coordinate system is subject to a constant force $\vec{F}$ given by $\vec{F} = (-\hat{i} + 2\hat{j} + 3\hat{k})N$

where $\hat{i}, \hat{j}, \hat{k}$ are unit vectors along the x-, y- and z-axis of the system respectively. What is the work done by this force in moving the body a distance of 4 m along the z-axis ?

23) Ravi & Rajesh practising for high jump event for Annual Sports Day. Ravi unknowingly fell on a hard surface of the field & got an injury, while Rajesh fell on a heap of sand & was safe. Rajesh after seeing this, immediately got up & took Ravi to a doctor in a nearby dispensary;

a) Why was Ravi injured?

b) If Ravi weighs more than Rajesh ,then who will fall on the floor with greater speed?

c) What are values shown by Rajesh? 4

24) a) A projectile is fired with a velocity 'u' making an angle 'θ' with the horizontal. Show that its trajectory is a parabola. Derive expressions for its 'horizontal range'.

b) A fighter plane flying horizontally at an altitude of 1.5 km with speed 720 km/h passes directly overhead an anti-aircraft gun. At what angle from the vertical should the gun be fired for the shell with muzzle speed 600 ms^{-1} to hit the plane ? At what minimum altitude should the pilot fly the plane to avoid being hit ? (Take g = 10 ms^{-2}). 5
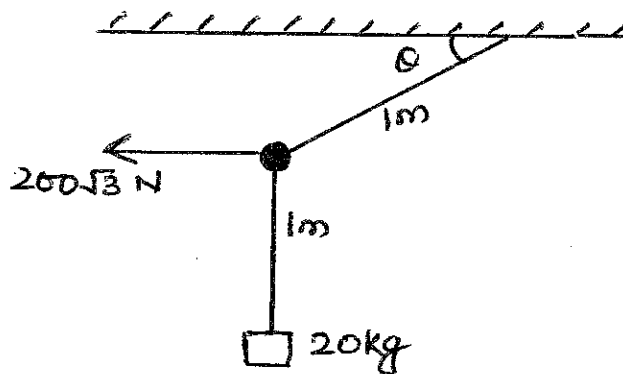
OR

a) An object is revolving in a circular path of radius 'r' with a uniform speed 'v'. Derive an expression for centripetal acceleration. Explain what is the direction of centripetal acceleration during its motion?

b) An aircraft executes a horizontal loop of radius 1 km with a steady speed of 900 km/h. Compare its centripetal acceleration with the acceleration due to gravity.

25) a) Define elastic collision in one-dimensional between two bodies. Show that the relative velocity of approach before collision is equal to the relative velocity of separation after the collision.

b) A molecule in a gas container hits a horizontal wall with speed 200 ms^{-1} and angle 30° with the normal, and rebounds with the same speed. Is momentum conserved in the collision? Is the collision elastic or inelastic? Justify. 5

OR

a) Explain what is meant by elastic potential energy of a stretched spring? Obtain an expression for it.

b) A block of mass 'm'= 0.4kg slides on a frictionless surface with a speed 'v'=0.5ms^{-1}. It runs to compress a spring of spring constant 'k'=750Nm^{-1}.Find the maximum compression 'x$_m$' in the spring, when the block stops momentarily.

26) a) What are concurrent forces? Establish the condition for the equilibrium of three concurrent forces $\vec{F_1}, \vec{F_2}$ and $\vec{F_3}$. 5

b) In the given figure find angle (θ) for the system to remain in equilibrium,

OR

a)Why roads are banked? Find the safe limit for maximum speed of a car if 'μ' is the coefficient of friction between the road and the tyres on a banked road .

b) A car is moving on a straight road with a speed of 100ms^{-1}. If coefficient of friction (μ$_k$) is 0.5, at what distance it will come to rest? 5

****

General Instructions:
(i)   Marks of each question have been indicated against it.
(ii)   All questions are compulsory.
(iii) Avoid overwriting and cuttings.
(iv) Give calculations or working notes wherever required.
(v)   All points of the questions should be attempted at one place.

1. Define bank overdraft? Which balance of bank column of cash book signifies bank overdraft. (1)
2. Is it necessary to provide depreciation on fixed assets of which the market value is higher than its book value? Give reason to your answer. (1)
3. Give two examples of transactions which are not recorded in accounting. (1)
4. When is the closing stock shown in the trial balance? (1)
5. Name four qualitative characteristics of accounting. (1)
6. Name the process of transferring the debit and credit items from a journal to their respective accounts in the ledger. (1)
7. Explain any three objectives of accounting (3)
8. Business is treated as an entity which is separate and distinct from the owner. Explain this statement with the principle applied. Also identify the values reflected in above mentioned principle. (3)
9. Explain the matching principle. How does matching principle apply to depreciation? (3)
10. Explain three internal and three external users of accounting. (3)
11. Ascertain goodwill with the following information and pass the opening journal entry:
    Assets: Building ₹ 1, 50,000; Cash ₹ 50,000; Debtors ₹15,000; Closing Stock ₹ 25,000 and Furniture ₹ 12,000.
    Liabilities: Capital ₹ 2, 00,000; Creditors ₹20,000; Bank overdraft ₹ 50,000 (3)
12. Choose the best alternate:
    i. When a trader sells goods on credit he prepares **Invoice/Debit Note.**
    ii. Rohan returned goods to Riyanshi of ₹ 2,000 .Riyanshi will prepare **Credit Voucher/Credit Note.**
    iii. Credit purchases of furniture will be recorded through **Credit Voucher/Transfer Voucher** (3)
13. Give two examples of each: (i) Current Liabilities (ii) Contingent Liabilities (iii) Revenue Expenditure and (iv) Capital Expenditure. (4)
14. Give any four points of distinction between cash basis and accrual basis of accounting (4)
15. Explain differed revenue expenditure with its three examples. (4)
16. Prove that the accounting equation is satisfied in all the following transactions of M/s Gurmehar
    i. Started business with Cash ₹ 50,000 and goods ₹ 20,000
    ii. Bought goods for cash ₹ 15,000 and on Credit from Manish ₹ 10,000
    iii. Goods sold for ₹ 27,000 (Less 10% of cost). Half the payment received in cash.
    iv. Purchased furniture for office use ₹ 6,000 and for household use of Gurmehar ₹ 4,000. (4)
17. The following were the balances extracted from the books of Nidhi on March 31st, 2017:

	₹		₹
Cash in Hand	540	Salaries	15,000
Cash at Bank	2,630	Patents	7,500
Purchases	40,675	Rent Received	9,000
Fuel & Power	4,730	General Reserve	3,000
Carriage on Sales	3,200	Insurance	600
Carriage on Purchases	2,040	Advance to Supplier	5,245
Return Outwards	500	Sundry Debtors	14,500
Opening Stock	5,760	Return Inward	680
Building	32,000	Wages	8,480
Freehold Land	10,000	Sales	98,780
Machinery	20,000	Sundry Creditors	6,300
Capital Account	62,000	Bills Receivable	13,500
Bad Debts Recover	2,500	Discount from Supplier	5,000

Prepare Trial-Balance on 31st March 2017. (4)

18. Enter the following transaction in the journal:
   i. Goods sold to Nath list price ₹ 25,000 allowing him trade discount 20% and cash discount 2%. He paid 50% amount by cheque which was banked.
   ii. X, a debtor of the firm became insolvent. A first and final payment @ 80 paise in a rupee was received from his official receiver towards his total dues of ₹ 2,000.
   iii. Goods distributed as free samples ₹ 5,000 and goods given as charity ₹ 3,000.
   iv. Insurance premium paid for the year ₹ 20,000.It includes ₹ 6, 000 for Life insurance of proprietor.
   v. Provide 12% p.a. interest on capital amounting ₹ 1, 00,000 for eight months.
   vi. Goods costing ₹ 30,000 was damaged by fire and insurance company admitted a claim for ₹ 10,000. (6)

19. Find out the nature of account according to modern classification and show were the increase in following will be shown:
   (a) Bank Overdraft   (b) Outstanding Salaries   (c) Prepaid rent
   (d) Goodwill   (e) Sales Return Account (f) Drawings (6)

20. Prepare Cash Book from the following transaction of M/s Ramandeep Traders for the, month of March, 2017:

		₹
March 1	Cash in hand	15,000
	Bank Overdraft	30,000
March 3	Goods bought and paid for it by Cheque	15,000
March 4	Bought goods from Anjan and paid by cheque ₹ 19400 in full settlement of	20,000
March 10	Paid salary for the month by cheque	1,500
March 12	Bank charges	300
March 18	Received from Manpreet on account	3 4,000
March 22	Drew from bank for office use	2,000
March 24	Paid cash for Telephone charges	1,600
March 27	Withdrawn from bank for personal use.	20,000
March 29	Paid to Simran her debt of ₹ 6,000 by way of Cheque of	5,800
March31	After keeping 2,000 cash in hand remaining balance of the cash is deposited into the bank.	

(6)

21. Prepare Purchase Book from the following transactions of Vinit Furniture Mart, Mumbai :
2017
January, 1 Purchased from M/s Amar traders, Raipur:
        200 chairs @ ₹ 300 per chair
        50 Desks @ ₹ 600 per desk
        Less: 2% trade discount
January, 12 Purchased from M/s Narayan traders,Bilaspur
        150 Tables @ ₹ 400 per table
        250 Chairs @ ₹ 150 per chair
        Less: 5% trade discount.
January, 15 Purchased from Sandeep Furniture House, Jagdalpur: in cash
        20 Almirahs @ ₹ 1000 per Almirah.
        50 Office tables @ ₹ 500 each
        Less: 10% trade discount and 4% cash discount terms and paid the amount by cheque.
January, 25 Purchased from Arihant furniture, Durg
        1 Sofa sets for official use @ ₹ 5000 per set.
        3 Sets of Dining table @ ₹ 4,000 per set.
January, 27 Ajay furniture house Raigarh, purchased from us
        20 chairs @ ₹ 150 per chair
        2 sets of dining table @ ₹ 2,000 per set.
        Less: trade discount 10%. (6)

22. State whether the following statements are **true or false:-**
    i. When cheque deposited into bank is dishonoured, it is recorded on credit side of Cash Book in cash column.
    ii. Business entity concept is not applicable to sole trading concerns and Partnership concerns.
    iii. Convention of Prudence results in understatement of profits and assets and overstatement of liabilities.
    iv. On 1st May, 2017, cash book bank overdraft balance was ₹ 2,000. On depositing ₹ 10,000 into bank and giving a cheque of ₹ 7,200 for rent, the credit balance in cash book will be ₹ 4,800.
    v. Salary due for the month of March will appear in credit side of Cash Book.
    vi. Journal records the transactions of a firm in a Periodical manner. (6)

23. Following are the information provided to you. You are required to prepare a Bank Reconciliation Statement on 31st March, 2017:
    i. Overdraft as per pass book on 31st March, 2017 ₹ 8,100.
    ii. Interest on investment collected by bank, appeared only in the pass book ₹ 7,500.
    iii. Cheques drawn for ₹ 5,000 but out of it only ₹ 3,000 were presented for payment till 31st March 2017.
    iv. A bills receivable discounted with bank recorded in cash book with ₹ 7,500, but was credited in pass book with actual receipt of ₹ 7,225.
    v. Insurance premium debited by bank and entered twice in the pass book ₹ 3,000.
    vi. Cheques deposited but not yet credited by bank ₹ 5,000.
    vii. Interest on overdraft debited by bank ₹ 2,000 the information of which was received on 5th April.2017.
    viii. A payment side of the cash book was undercast by ₹ 1,000. (8)

    OR

    i. Explain any four purpose of preparing Bank Reconciliation Statement?
    ii. State any four reasons when the Cash Book balance will be higher than the pass book balance. (4+4)

24. Nirali Cotton Mills purchased machinery on 1st August, 2012 for ₹ 90,000. On 1st October, 2013 it purchased another machine for ₹ 40,000.On 30th June, 2014 it sold off the first machine purchased in 2012 for ₹ 58,000 and on the same date purchased new machinery for ₹ 1, 00,000. Depreciation is provided at 20% p.a. on the original cost each year. Accounts are closed every year on 31st March. Show the machinery Accounts from 2012-'13 to 2014-'15. (8)

    OR

    i. "In case of long term asset, repair and maintenance expenses are expected to rise in later years than in earlier year". Which method is suitable for charging depreciation if the management does not want to increase burden on Profit and Loss Account of depreciation and repair. Explain three advantages of this method of depreciation.
    ii. A machine was purchased on 1st April, 2014. The balance of this machine on 31st March, 2017 is ₹ 5,83,000. Depreciation is charged @ 10%p.a. on written down value method. What was the cost price of machine on 1st April, 2014? (4+4)

    ****

Instructions :
1. All questions are compulsory.
2. Question no.1 to 5 are very short answer questions and carry 1 mark each.
3. Question no.6 to 10 are short answer questions and carry 2 marks each.
4. Question no.11 to 22 are also short answer questions and carry 3 marks each.
5. Question no. 23 carries 4 marks.
6. Question no. 24 to 26 carry 5 marks each.

1. State Avagadro's law. 1

2. What is the lowest value of 'n' that allows 'g' orbitals to exist? 1

3. Write general outer electronic configuration of d-block elements. 1

4. Would you expect the first ionization enthalpy of two isotopes of same element to be same or different? Justify your answer. 1

5. Define hydrogen bond. 1

6. a) Indicate the number of unpaired electrons in Fe^{3+} 2

   b) Which quantum number tells about the shape of orbitals?

7. What do you mean by Greenhouse effect? Name any one green house gas. 2

8. On the basis of quantum number, justify that the sixth period of periodic table should have 32 elements. . 2

9. Which out of NH_3 and NF_3 has higher dipole moment and why? 2

(OR)

Although both CO_2 and H_2O are tri-atomic molecules, shape of H_2O is bent while that of CO_2 is linear. Explain on the basis of dipole moment.

10. Consider the following species : 2

    N^{2-}, Na^+, Al^{3+}, O^{2-}, Mg^{2+}, F^-

    a) What is common in them?
    b) Arrange them in order of increasing ionic radii.

11. Calculate the number of atoms in each of the following : 3
    a) 52 moles of Ar   b) 52 u of He   c) 52 g of He

12. Account for the following : 3

    a) Cationic radius is smaller than the atomic radius.

    b) Be has higher IE_1 than B.

    c) Second Electron gain enthalpy of oxygen is positive

(OR)

    a) Nitrogen has the smallest size among second period elements.

    b) The electron gain enthalpy of Cl is most negative among halogens.

    c) The correct order of chemical reactivity of

       F, Cl, O, N is F>O>Cl>N

13. How many significant figures are present in the following : 3

    a) 500. 0 b) 0.0025 c) 8201

14. Apart from tetrahederal geometry, another possible geometry for methane is square planar. Explain, why methane is not square planar? 3

15. a) The density of 3M solution of NaCl is 1.25 gmL^{-1}. Calculate molality of the solution. 3
    b) Why molality is preferred to molarity?

16. a) Define ionization enthalpy. 3
    b) What is the significance of terms "isolated gaseous atom" and "ground state" while defining ionization enthalpy and electron gain enthalpy?

17. Give the value of n and l for 3

    a) 11th electron of Na b) 18th electron of K c) 23rd electron of Cr

    (Atomic numbers of Na =11, K = 19, Cr = 24)

18. a) State Heisenberg's uncertainty principle. 3

    b) A microscope using suitable photons is employed to locate an electron in an atom within a distance of $0.1 A°$. What is the uncertainty involved in the measurement of its velocity?

19) What is the hybridization of central atoms in 3

    a) H_3O^+ b) BrF_5 c) XeF_4 What are their shapes?

20) A photon of wavelength $4 \times 10^{-7} m$ strikes a metal surface, the work function of metal being 2.13 eV. Calculate : a) The energy of photon $\quad$ 3

b) The kinetic energy of emission of photo electrons

c) The velocity of photo electrons (given 1eV = 1.6020×10^{-19} J)

21) Define Resonance. Draw all resonating structure of CO_3^{2-} ion. $\quad$ 3

22) Answer the following questions on the basis of data given below : $\quad$ 3

Element	ΔH_1 (KJ mole^{-1})	ΔH_2 (KJ mole^{-1})	$\Delta_{ege}H$ (KJ mole^{-1})
I	2372	5251	+48
II	419	3051	−48
III	1681	3374	−328

a) Which element is the most reactive metal?

b) Which element is the most reactive non metal?

c) Which element is the least reactive element?

23) Rohan and Lucky were friends. One day, during winter, when they were going to school at 10:00 a.m., Rohan felt irritation in his eyes and throat. He was also unable to breathe. Lucky immediately took him to the doctor. Doctor gave him the proper remedy. When he started feeling better, Lucky asked reasons for this. Doctor answered him satisfactorily. $\quad$ 4

a) Can you guess, what was the reason given by the doctor for the illness of Rohan?

b) How is such pollutant formed?

c) How can we prevent the formation of such pollutant?

d) What values are possessed by Lucky?

24) a) How many σ and π bonds are present in $CH_3CH = CH.C \equiv CH$? $\quad$ 5

b) Why are the axial bonds of PCl_5 larger than the equatorial bonds?

c) Draw the geometry and write the name given to it for ClF_3 as per VSEPR theory.

d) Arrange the following in the increasing order of stability : $\quad O_2, O_2^-, O_2^+, O_2^{2-}$

e) Draw the orbital diagram for ethyne molecule.

(OR)

a) Write the hybridization of each carbon in the compound $H_3C - CH_2 - C \equiv CH$

b) H_2 molecule is possible while He_2 molecule does not exist. Justify on the basis of valance bond theory.

c) Draw the geometry and write the name given to it for SF_4 as per VSEPR theory.

d) Arrange the following in the increasing order of bond angle : NH_3, SbH_3, PH_3, BiH_3, AsH_3

e) Draw the orbital diagram for ethene molecule.

25) a) An ion with mass number 56, contains 3 units of positive charge and 30.4% more neutrons than electrons. Assign the symbol to this ion. $\quad$ 5

b) Write the IUPAC name of the element with atomic number 126.

c) How many electrons in an atom have the quantum number values, n=4, $m_s = -½$?

d) Which law sets a limit to the number of electron that an orbital can have? State the law.

(OR)

a) What is the wavelength of the light emitted when the electron in a H-atom undergoes transition from an energy level with n=4 to an energy level with n=2?

b) Write electronic configuration of Cu (29)

c) What is the maximum number of emission lines when excited electron of a H – atom in n=6 drops to ground state?

d) What will happen to the wavelength of an electron if its velocity gets doubled?

26) a) Calculate the concentration of HNO_3 in moles per litre in a sample which has density 1.41 g/mL and the mass % of HNO_3 in it being 69% . $\quad$ 5

b) State the law of multiple proportion.

c) Two students measured same mass separately. If actual mass is 3.0 g. What can you say about the measurements taken by these two students as per the following data :

Student	Reading	
	1	**2**
A	3.01 g	2.99 g
B	3.05 g	2.95 g

e) How many Cu can be obtained from 100 g of $CuSO_4$?

(OR)

a) 50 kg of N_2 and 10 kg of H_2 gases are mixed to produce NH_3 (g). Calculate the amount of NH_3 formed and identify the limiting reagent.

b) Define mole fraction.

c) Which of the following pairs has same numbers of atoms?

(i) 16 g of O_2 (g) and 4 g of H_2 (g)

(ii) 12 g of C (s) and 23 g of Na (s)

d) What will be the mass of one C-12 atom in grams?

******

DELHI PUBLIC SCHOOL, BHILAI (C.G.)

DATE :18-09-2017　　FIRST TERM EXAMINATION, 2017　　**Time: 3 Hours**

CLASS : XI　　　　　　**BIOTECHNOLOGY**　　　　　　**M.M : 70**

No. of Pages Printed : 1

<u>General Instructions</u> :

i) Question paper consists of four sections A,B,C and D.

ii) Questions 1 to 6 carry one mark each.

iii) Questions 7 to 14 carry two marks each.

iv) Questions 15 to 25 carry three marks each.

v) Questions 26 to 28 carry five marks each.

SECTION A

1. A host is required for the production of vaccine against Hepatitis B. Name the cell. (1)
2. What is the distinguishing feature of lysosome? (1)
3. Name the type of plastid that helps in lipid and protein storage. (1)
4. State the function of dendrites and axons in nervous tissues. (1)
5. What are the secondary lymphoid organs? Name any two secondary lymphoid organs. (1)
6. What test is used to distinguish aldoses and ketoses. (1)

SECTION B

7. Draw the structure of Nucleus. (2)
8. What is bioremediation? Write an application of it. (2)
9. Cytoplasm is important for any cell. Explain. (2)
10. Compare collencyma and chlorencyma. (2)
11. State the difference between Bone and Cartilage. (2)
12. What is homeostatis? How is water regulated in plants? (2)
13. Write the Haworth structure of α D Glucose and β.D. Glucose. (2)
14. Explain genetic recombination in bacteria. (2)

SECTION C

15. Differentiate apoptosis and necrosis with the help of diagram. (3)
16. Interphase of cell cycle is very important. Why? (3)
17. What are the living systems used in biotechnology? (3)
18. How do plants protect themselves against pest and pathogens. (3)
19. Write the structure of Sucrose and Lactose. (3)
20. Explain the process of fertilization in plants with the help of diagram. (3)
21. What are stem cells? Explain the different types and sources of stem cells. (3)
22. What are nucleosomes? State the difference between euchromatin and heterochromatin. (3)
23. How do cell communicate with each other? Explain. (3)
24. What is biodiversity? What are man made changes that deteriotes the habitat? (3)
25. How does the cell ensure that events occurring in various phase are in correct order? (3)

SECTION D

26. Explain the muscular movement in animals with the help of diagram.

(OR)

Meiosis is an important phase in any living organism Why? Explain prophase I of meiosis with the help of diagram. (5)

27. a) Draw a well labeled diagram of immunoglobulin.

b) Explain how human being remain protected from various communicable diseases and pathogens. (5)

28. What is cloning? Explain . Write the application of biotechnology related to any five industries. (5)

(OR)

Explain with diagram the structure and function of vascular tissues in plants.

****

DELHI PUBLIC SCHOOL, BHILAI (C.G.)

DATE : 11-09-2017   **FIRST TERMINAL EXAMINATION - 2017**   **TIME: 3 HOURS**

CLASS: XI   **BUSINESS STUDIES**   **M.M. : 90**

No. of Printed Pages : 2

GENERAL INSTRUCTIONS:

(i) Answer to questions carrying 1 mark may be from one word to one sentence.

(ii) Answer to questions carrying 3 marks may be from 50 – 75 words.

(iii) Answer to questions carrying 4 – 5 marks may be about 150 words.

(iv) Answer to questions carrying 6 marks may be about 200 words.

(v) Attempt all parts of a question together.

1. Give the name of an instrument which is identical to bank draft and is payable within the town. (1)

2. In a market, one trader lowers the price of his articles to increase the sale, the other is also bound to do the same due to competition. Identify the cause of risk being portrayed in the case. (1)

3. Pankaj and Dhiraj is a firm formed for the construction of dam. Name the type of partnership. (1)

4. OLX.com provides a platform where people can sell their used goods to other people. Identify the type of e-business transaction facilitated by OLX.com. (1)

5. Give the name of the facility that is given by the banks to business firms for meeting their short-term requirements of funds in excess of the amount in their account. (1)

6. Identify the public organization which is a body corporate and set up under a Special Act of Parliament. (1)

7. Name the auxiliary to trade that removes the hindrance of time. (1)

8. Name the document which invites subscription of shares from public. (1)

9. Saksham is a business man manufacturing LED bulbs. He wants to outsource some of his services. In this context discuss any three services which he may want to outsource. (3)

10. Insurable interest is a fundamental principle of insurance. When should it be present in case of (3)
    (a) Life insurance policy
    (b) Fire insurance policy
    (c) Marine insurance policy

11. Classify the following economic activities : (3)
    (a) Rohan sells toys on behalf of his employer
    (b) Ravi repairs scooters on roadside
    (c) Mukul is a practicing Chartered Accountant

12. Why MNCs are in a position to exercise massive control on the world economy? (3)

13. How does a co-operative society exemplify democracy and secularism? Explain. (3)

14. Explain any three services offered by the postal department. (3)

15. Which form of business organization is suitable in the following cases : (4)

    (a) These should be minimum expenses in starting the business.

    (b) The business organization should have stability and continuity.

    (c) The ancestral property is to be used for doing the business

    (d) The business organization should be suitable from the point of view of investors.

16. 'e-business offers numerous benefits'. Justify your answer by giving suitable reasons. (4)

17. 'Profit is an essential objective of business due to certain reasons'. Comment. (4)

18. Which principle of insurance is highlighted in the following statements? (4)
    (a) After compensating the loss, insurer gets all the rights with respect to the subject-matter insured.
    (b) Insured is entitled to recover the loss suffered by him, up to the limit of policy amount.
    (c) Insurer is not liable for any uninsured causes or perils.
    (d) The insured should take reasonable steps to minimize the loss.

19 Rajesh is promoting a company. Before the company is formed, he enters in to a contract with ABC Ltd for purchase of land and also agrees to pay ₹ 10 crores within a period of 2 months. The company was formed within 1 month. On the basis of the facts, answer the following questions.   (4)

(a) Which type of contract is entered by Rajesh?

(b) Is the contract legally binding on the company? Why?

(c) Can ABC Ltd hold Rajesh liable for payment of money?

(d) What can the company do to prevent Rajesh from such a situation?

20 "The relationship between a bank and a customer begins when the customer opens accounts with the bank". In context to the statement, discuss some of the accounts that can be opened by a customer in banks.   (5)

21 Dinesh, an owner of a huge departmental store, charges exorbitantly due to no competition around, and he misses out no opportunity to earn profit. He finds nothing wrong as the main goal of business is to earn profit.   (1+4=5)
(a) Is his action justified? Why?
(b) Discuss any four values which you find are lacking in him as a rational businessman.

22 What is meant by a government company? Describe any of its two merits and limitations.   (1+2+2=5)

23 "A private company is superior to a public company because it enjoys special privileges". Comment.   (5)

24 Explain primary and secondary industries with the help of examples.   (6)

(OR)

Discuss the various social objectives of business.   (6)

25 What do you mean by 'Outsourcing'? Explain the need for outsourcing.   (1+5=6)

(OR)

Differentiate between e-business and Traditional business on the basis of :   (6)

(a) Cost of setting up   (b) Transaction Risk

(c) Government Patronage   (d) Locational Requirements

(e) Ease of formation   (f) Nature of human capital needed

26 PM Narendra Modi has launched the Swachh Bharat campaign to ensure a cleaner and hygienic India. One of main problems faced in successful implementation of this project is waste management. To overcome this problem, the government has collaborated with Scientific Waste Management Ltd. As per the collaboration, the city municipal corporations will collect the waste and hand it over to Scientific Waste Management Ltd. who will then dispose it off scientifically. For this, they will be paid ₹ 150 per tonne of waste. They will also generate gobar gas, which will be supplied to rural areas. This collaboration is for a period of three years.
(a) Identify the form of collaboration.
(b) Explain any three benefits of such collaboration.
(c) Identify any two values communicated by the Indian Governemnt.   (1+3+2=6)

(OR)

What do you mean by Public Sector?   (1+5=6)
Discuss the rationale for giving dominant role to public sector (any five)

27 Explain briefly the various clauses of memorandum of association.   (6)

(OR)

Explain briefly any three merits and three demerits of a Joint Hindu Family Business.   (3+3=6)

******

GENERAL INSTRUCTIONS:

a) All questions are compulsory

b) The question paper consists of 29 questions divided into four sections A, B, C and D. Section A comprises 4 questions of 1 mark 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.

c) All questions in Section A are to be answered in one word, one sentence or as per the exact requirement of the question.

d) There is no overall choice. However internal choice has been provided in 3 questions of 4 marks each and 3 questions of 6 marks each. You have to attempt only one of the alternative in all such questions.

SECTION A

1 Find the value of $\tan\left(\dfrac{19\pi}{3}\right)$

2 If $A \subset B$ then $B' \subset A'$ .Justify with the help of Venn diagram.

3 Evaluate $i^{1581} + i^{4543}$

4 If $^nC_3 = {^nC_5}$, *Find the value of* $^nC_2$

SECTION B

5 If $[x]^2 - 5[x] + 6 = 0$ then find the interval in which x belongs to.

6 Find the domain and range of $f(x) = \sqrt{a^2 - x^2}, (a > 0)$

7 A circular wire of radius 3 cm is cut and bent so as to lie along the circumference of a hoop whose radius is 48 cm. Find the angle in degrees which is subtended at the center of the hoop.

8 Solve $2\tan^2 x + \sec^2 x = 2$, *for* $0 \le x \le \pi$

9 Find the value of P such that the difference of the roots of the equation $x^2 - Px + 8 = 0$ is 2.

10 If $|z| = 2$ *and* $\arg(z) = \dfrac{\pi}{4}$, *then find* z.

11 If $2x + 3 < 7$ then find the value of x for the following

    i) x is a natural number

    ii) x is an integer.

12 How many chords can be drawn through 10 points on a circle?

SECTION C

13 If $U = \{1,2,3,4,5,6,7,8,9\}$, A$=\{2,4,6,8\}$ and B $=\{2,3,5,7\}$. Verify the following

    i) $(A \cup B)' = A' \cap B'$ ii) $(A \cap B)' = A' \cup B'$

14 Is g = {(1, 1), (2, 3), (3, 5), (4,7)} a function? If this is described by the relation g(x) = αx + β,then what values should be assigned to α and β?

15 Find the square root of $-7 - 24\,i$. Using the result find the value of $\sqrt{-7 + 24i}$

16 Prove by Induction, for $n \ge 1$, $\dfrac{1}{1.2} + \dfrac{1}{2.3} + \dfrac{1}{3.4} + \ldots + \dfrac{1}{n(n+1)} = \dfrac{n}{n+1}$

OR

Prove by Induction $10^{2n-1} + 1$ is divisible by 11

17 Prove that $2\cos\dfrac{\pi}{13}\cos\dfrac{9\pi}{13} + \cos\dfrac{3\pi}{13} + \cos\dfrac{5\pi}{13} = 0$

18 Two trees A and B are on the same side of a river. From a point C in the river the distance of the trees A and B is 250 m and 300 m respectively. If the angle C is 45 degrees. Find the distance between the trees. (use$\sqrt{2} = 1.41$).

OR

Prove that $\left(b^2 - c^2\right)\cot A + \left(c^2 - a^2\right)\cot B + \left(a^2 - b^2\right)\cot C = 0$

19 If α and β are different complex numbers with $|\beta| = 1$, then find the value of $\left|\dfrac{\beta - \alpha}{1 - \overline{\alpha}\beta}\right|$

OR

Convert the complex number $z = \dfrac{i-1}{\cos\dfrac{\pi}{3} + i\sin\dfrac{\pi}{3}}$ in polar form.

20 How many words, with or without meaning, each of 2 vowels and 3 consonants can be formed from the letter of the word "DAUGHTER"? Educating daughters is a way to a healthy nation, mention two values.

21 How many numbers of four digits greater than 2300 can be formed with the digits 0, 1, 2, 3, 4, 5 and 6, no digit being repeated in any number?

22 Find the number of words with or without meaning which can be made using all the letters of the word AGAIN. If these words are written as in a dictionary, what will be the 49th word?

23 Find the value of $\cot 2x \cot 3x + \cot 3x \cot x - \cot x \cot 2x$.

SECTION D

24 From 50 students taking examination in Mathematics, Accountancy and Economics each of the student has passed in at least one of the subjects, 37 passed in Mathematics, 24 Accountancy and 43 Economics. At most 19 passed Mathematics and Accountancy, at most 29 Mathematics and Economics and at most 20 Accountancy and Economics. What is the largest possible number that could have passed all three examinations?

25 Write general solution for $\sqrt{3}\cos\theta + \sin\theta = \sqrt{2}$ Also write particular solution in $(0, \pi)$.

26 If $\tan x = \dfrac{3}{4}$ *find the value of* $\sin\left(\dfrac{x}{2}\right), \cos\left(\dfrac{x}{2}\right)$ *and* $\tan\left(\dfrac{x}{2}\right)$, when x lies in the third quadrant.

27 Prove by Induction $1^2 + 2^2 + 3^2 + \dots + n^2 > \dfrac{n^3}{3}$, $n \in N$

OR

Prove by Induction $2.7^n + 3.5^n - 5$ is divisible by 24, for all $n \in N$.

28 A solution of 8% Boric acid is to be diluted by adding 2% boric acid solution to it. The resulting mixture is to be more than 4% and less than 6% boric acid. If we have 640 liters of the 8% solution, how many liters of the 2% solution will have to be added?

OR

Solve the following system of inequalities graphically
$x + 2y \le 10, x + y \ge 1, x - y \le 0, x \ge 0, y \ge 0$

29 A group consists of 4 girls and 7 boys. In how many ways can a team of 5 members be selected if the team has i) no girl ii) at least one boy and one girl iii) at most 3 girls.

OR

A boy has three library tickets and 8 books of his interest in the library. Of these 8 he does not want to borrow Mathematics part II unless Mathematics part I is also borrowed. In how many ways can he choose the three books to be borrowed?

****