

SAMPLE PAPER

HALF YEARLY EXAMINATION 2019-20

SUBJECT: BIOLOGY

CLASS: XI

TIME: 3HRS

MM 70

BLUEPRINT

S No	Type of Question ↓ Units	VSA (1 mark)	SA I (2 marks)	SA II (3 marks)	LA (5marks)	Total Marks
1.	Diversity of living organism	2(2)	2 (4)	2(6)	1(5)	17
2.	Structural organisation in animals and in plants	1 (1)	2 (4)	5(15)	1 (5)	25
3.	Cell structure and functions	2(2)	3(6)	5(15)	1 (5)	28
	Total	5 (5)	7(14)	12 (36)	3 (15)	27(70)

SAMPLE PAPER

HALF YEARLY EXAM 2019-20

CLASS-XI

MAX.TIME 3 Hrs.

SUB-BIOLOGY

MAX MARKS -70

General Instructions: -

1. This question paper contains 27 questions. All questions are compulsory.
2. This question paper consists of four sections, A, B, C and D.
Section-A contains 5 questions of 1 mark each, Section-B comprises of 7 questions of 2 marks each, Section-C has 12 questions of 3 marks each and Section-D contains of 3 questions of 5 marks each
3. There is no overall choice. However, an internal choice has been provided in two question of 1 mark, two questions of 2 marks, four questions of 3 marks and all the three questions of 5 marks. A student has to attempt only one of the alternatives in such questions.
4. Draw neat and well labeled diagrams wherever necessary.

Section A (01 mark each)

1. What are the organisms found in salty areas called as? 1
2. Give a scientific term used for lateral appendages in aquatic annelids. 1
OR
Animals in Class Aves are referred as homoiothermous animals. Give reason.
3. Explain the term epiphyllous. 1
4. Who proposed the fluid mosaic model of plasma membrane. 1
OR
Name the type of leucoplast which stores starch.
5. Which is the most abundant protein found in the whole of biosphere? 1

Section B (02 marks each)

6. What is a botanical garden? Name one botanical garden each of world fame and Indian fame. 1+ 1
7. (a) Name the excretory and osmoregulatory organs present in :- 1+
(i) Phylum Annelida (ii) Phylum Platyhelminthes.
(b) What is bioluminescence? Organisms of which phylum shows this phenomenon?

OR

- Write any four characteristics of organisms belonging to Phylum Arthropoda.
8. How is a bacterial cell different from an animal cell? 2
 9. Name the various parts in cockroach which perform the following functions:- ½ x4
(a) grinding of food particles (b) removal of uric acid

(c) help in mosaic vision

(d) storage of sperms

OR

Name any two types of cell junctions found in epithelial tissues and explain their functions.

10. Classify the following as nitrogenous base, nucleoside and nucleotide:- 1/2x4
(a) Cytosine (b) Adenosine
(c) Uridine (d) Guanylic acid
11. How is a brood pouch formed in a female cockroach? Name the parts present in it. 1+1
12. How is Anaphase of Mitosis different from Anaphase-I of Meiosis. 2

Section C (03 mark each)

13. Name the different classes of algae .What are the basis of their classification. 1+1+1
OR

Draw a neat and well labeled diagram of Funaria plant showing sporophyte and gametophyte.What kind of a life cycle does it show?

[ONLY FOR VISUALLY CHALLENGED]

Describe the life cycle of Funaria plant .What kind of a life cycle does it show?

14. Organisms of Class Pisces are different from Aves. Discuss how? 3
15. What are the three basic tissue systems found in flowering plants? Give the names of the different tissues classified under each system. 1+1+1

OR

What are stomata? Write their location and significance ..

[ONLY FOR VISUALLY CHALLENGED]

Name the components of the stomatal apparatus and describe its function in brief.

16. Give an account of the type of meristematic tissues found in plants. 3
17. Define the following:- 1/2 x 6
(a) Aestivation (b) Diadelphous (c) Syncarpous
(d) Phyllotaxy (e) Hypogynous (f) Staminode
18. Illustrate the blood vascular system of a cockroach with the help of labeled diagram 3

[ONLY FOR VISUALLY CHALLENGED]

What kind of a blood vascular system is found in cockroach? Explain.

19. (a) Who formulated the cell theory? Name the scientist who modified it? 1+ 2
(b) What are the postulates of the modified theory?
20. DNA and RNA both are nucleic acids. Yet they differ from each other. How? 3
21. Name any three organelles included in the endomembrane system and write one important function of each. 1+1+1

OR

Draw a neat and well labeled diagram of a plastid.

[ONLY FOR VISUALLY CHALLENGED]

Describe the structure of a plastid explaining function of each part .

22. Illustrate with the help of a diagram the various regions found in roots of angiospermic plants. 3

[ONLY FOR VISUALLY CHALLENGED]

Name and describe the structure and functions of the various regions found in the roots of angiosperm plant.

23. Describe the primary, secondary and tertiary structure of protein. 1+1+1
OR
Explain the concept of activation energy with the help of a graph.

[ONLY FOR VISUALLY CHALLENGED]

What are enzymes? Name and describe any two type of co-factors with one example each.

24. Discuss the significance of the two types of cell divisions found in sexually reproducing plants. How do the two divisions differ from each other? 1+2

SECTION D (5 mark each)

25. What is a centromere? Name the four different types of chromosome .Explain with the help of diagram . 1+4

[ONLY FOR VISUALLY CHALLENGED]

What is a centromere ?Give brief account of four different type of chromosome with help of diagram. **OR**

Draw neat and well labeled diagrams to show the various phases of Mitosis.

[ONLY FOR VISUALLY CHALLENGED]

Describe the various stages of Mitotic cell division.

26. (a) Describe the three steps of sexual cycle of Kingdom Fungi. 3+2
(b)What do the terms phycobiont and mycobiont signify?
OR
(a) Name the type of fertilization that is unique to angiosperms. Describe it.
(b)What are the universal rules of nomenclature.

27. (a) What are the various types of tissues that constitute vascular bundles and write their function? Give one difference in the vascular bundle of root and stem. 3+2
- (b) What is meant by modification of roots? What type of modification is found in
(i) Mangrove tree (ii) Maize

OR

- (a) Differentiate between the following –
- (i) Bone and cartilage
 - (ii) Tendon and ligament
 - (iii) Striated and un-striated muscle
- (b) Draw a neat and well labeled diagram of a monocotyledonous seed.

[ONLY FOR VISUALLY CHALLENGED]

- (b) Describe the structure of a monocotyledonous seed.

END OF PAPER

SAMPLE PAPER
HALF YEARLY EXAMINATION
 XI- Computer Science (083)
 Session: 2019-20
BLUE PRINT

S. No.	Typology of Questions	Very Short Answer (VSA) (1 mark)	Short Answer (SA) (2 marks)	Long Answer (L.A.) (3 marks)	Total No. of questions	Total Marks
1	Computer System Organization (Unit-1)	5(1)	8(2)	3(3)	16	30
2	Computational Thinking and Programming (Unit-2 up to Debugging programs)	6 (1)	8 (2)	6(3)	20	40
Total		11(1) 11	16(2) 32	9(3) 27	36	70

Computer Science Syllabus is to be covered in Half Yearly Examination 2019-20

Unit 1: Computer Systems and Organisation

- Basic computer organisation: description of a computer system and mobile system, CPU, memory, hard disk, I/O, battery.
- Types of software: application, System, utility.
- Memory Units: bit, byte, MB, GB, TB, and PB.
- Boolean logic: OR, AND, NAND, NOR, XOR, NOT, truth tables, De Morgan's laws
- Information representation: numbers in base 2, 8, 16, binary addition
- Strings: ASCII, UTF8, UTF32, ISCII (Indian script code), Unicode
- Basic concepts of Flowchart
- Concept of Compiler & Interpreter
- Running a program: Notion of an operating system, how an operating system runs a program, idea of loading, operating system as a resource manager.
- Concept of cloud computing, cloud (public/private), introduction to parallel computing.

Unit 2: Computational Thinking and Programming

- Basics of Computational Thinking: Decomposition, Pattern Recognition/ Data representation, Generalization/ Data Abstraction and algorithm.
- Familiarization with the basics of Python programming: a simple "hello world" program, process of writing a program (Interactive & Script mode), running it, and print statements; simple data-types: integer, float, string
- Features of Python, Python Character Set, Token & Identifiers, Keywords, Literals, Delimiters, operators.
- Comments: (Single line & Multiline/ Continuation statements), Clarity & Simplification of expression.
- Introduce the notion of a variable, and methods to manipulate it (concept of Lvalue and R-value even if not taught explicitly).
- Knowledge of data types and operators: accepting input from the console, assignment statement, expressions, operators and their precedence.
- Operators & types: Binary operators-Arithmetic, Relational operators, Logical Operators, Augmented Assignment operators.
- Conditional statements: if, if-else, if-elif-else; simple programs: e.g.: absolute value, sort 3 numbers, and divisibility.
- Notion of iterative computation and control flow: for(range(),len()), while, flowcharts, suggested programs: interest calculation and factorials, etc.
- Idea of debugging: errors and exceptions; debugging: pdb, break points.

SAMPLE PAPER

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Code No. **083/4**

Roll No.

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Candidates must write the Code on the title page of the answer-book.

- Please check that this question paper contains 05 printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains 7 questions.
- **Please write down the Serial Number of the question before attempting it.**
- 15 minutes time has been allotted to read this question paper. The students will read the question paper only and will not write any answer on the answer-book during this period.

HALF YEARLY EXAMINATION 2019-20

COMPUTER SCIENCE

[Time allowed: 3 hours]

[Maximum marks: 70]

Instructions:

- (i) *Programming Language in Section B: Python*
- (ii) *All Questions are compulsory and each question carries 10 marks.*

Section – A

1. (a) Name any one input and one output device used at supermarket point of sale (POS) terminal with bar code reader and a monitor. **1**
- (b) Mention the name of the parts of the compiler which are responsible to combine the libraries together with object code and loads it in final executable module for execution in main memory. **1**
- (c) Study each statement and determine which of them hold true for a **compiler**: **1**

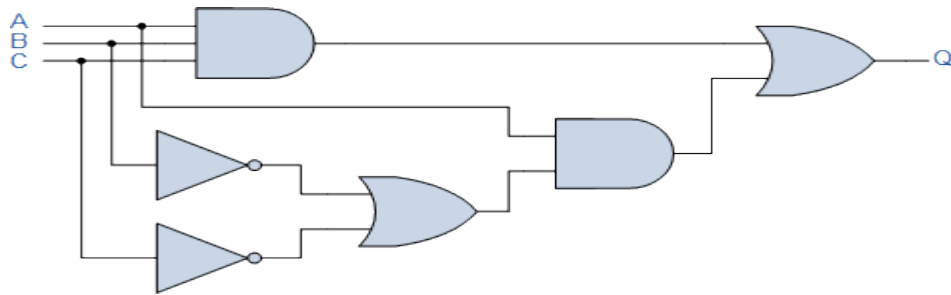
- (i) Generates an error reports at the end of translation
- (ii) Stops translation process as soon as the first error is encountered.
- (iii) Translates the entire program in one go.
- (iv) Slows speed of execution of program loops.

- (d) is a representation of Boolean function or expression containing all possible combinations of input values. **1**
- (e) Choose the correct conversion of $(FADE)_{16}$ into binary form : **1**
- i) 1111 1010 1100 1110
 - ii) 1111 1010 1101 1110
 - iii) 1010 1111 1101 1110

(f) Explain the difference between internal and external memory with the help of an example. **2**

(g) Describe the various roles of operating system in brief. **3**

2. (a) What are the various categories of application software? **2**
- (b) What are the advantages of parallel computing? **2**
- (c) What is the significance of UNICODE? **2**
- (d) Convert the hexadecimal number $(B2F)_{16}$ into its $(?)_2$ binary number and $(?)_8$ octal number **2**
- (e) Write an equivalent Boolean expression for the following circuit: **2**



3. (a) What is the role of CPU in a mobile system? **2**
- (b) Name the law shown below and verify it using a truth table. **2**
- $A+B.C=(A+B).(A+C)$
- (c) State the DeMorgan's laws of Boolean Algebra and verify any one law algebraically. **3**
- (d) i) Convert $(752.2)_8 = (\quad)_{10} = (\quad)_{16}$ **3**
- ii) Add 11110010.01 and 10010110.10

Section - B

4. (a) Which one is a computational thinking technique:
- i) Debugging
 - ii) Coding
 - iii) Pattern recognition

- 1**
- (b) Name any two features of python programming language. **1**
- (c) Identify the error in this snippet of code and correct it: **1**
- ```
A="1234"
Q=A/10
print(Q)
```
- (d) Find out the valid identifier: **1**
- `_abc_d`, `break`, `doc14`, `1rak`
- (e) What is the output of this code snippet: **1**
- ```
for ch in 'Python':
    print(ch,end="")
```
- (f) Which of the following is **not** python legal string operation? **1**
- i) `'my'+'world'`
 - ii) `'my'*3`
 - iii) `'world'+3`
 - iv) `'world'.lower()`
- (g) “Comments are useful and an easy way to enhance readability and understand ability of a program”. Mention the types of comments and elaborate the above said statement with an example. **2**
- (h) Draw a flowchart to accept three numbers and print the largest among the three. **2**
5. (a) What do you understand by the term mutable and immutable? Explain with the help of suitable example. **2**
- (b) `x,y=20,60` **2**
- ```
y,x,y=x,y-10,x+10
print(x,y)
```
- (c) Write a program to calculate and print the total salary of a person for a given Basic salary according to the following conditions: **3**
- [Hint : Total Salary= Basic salary + Bonus ]

| Basic salary    | Bonus               |
|-----------------|---------------------|
| Less than 10000 | 20% of Basic salary |
| 10000 to 20000  | 10% of Basic salary |

|                    |                    |
|--------------------|--------------------|
| Greater than 20000 | 5% of Basic salary |
|--------------------|--------------------|

- (d) Suggest the appropriate functions for the following task and give an example for each function: **3**
- i. To convert the first letter of a string to upper case
  - ii. To find the occurrence of a string within another string
  - iii. To remove all white spaces from the beginning of a string

6. (a) Rewrite the following code fragment using while loop: **2**

```
for k in range (1,15):
 if k%3==0:
 print(k)
```

- (b) What will be the output of following code: **2**

```
string="aabbcc"
count=3
while True:
 if string[0]=='a':
 string=string[2:]
 elif string[-1]=='b':
 string=string[:2]
 else:
 count+=1
 break
print(string)
print(count)
```

- (c) Write a program to reads a string and check whether it is a palindrome or not using for loop? **3**

- (d) Write a program which takes a string as input and count the number of words starting with a vowel in a given string. **3**

**Example:**

Input string: "Our Universe is vast."

Words started with vowels : 3

7. (a) What is the need for debugger tool? **2**
- (b) What is the difference between syntax error and semantics errors? Give example of both types of errors. **2**
- (c) Write a python script to print Fibonacci series up to n number. **3**  
[Hint : 0, 1, 1, 2, 3, 5, 8....n]
- (d) Write a program using nested loop to produce the following pattern: **3**
- 4321  
432  
43  
4

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\*\*\*\*\*END\*\*\*\*\*

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**Question Paper Design 2019-20**

**English CORE XI (Code No.301)**

**Marks -80+20=100**

| <b>Typology</b>           | <b>Testing Competencies</b>                                                                                                                                            | <b>Objective Type Question including MCQs (1 mark each)</b> | <b>Short Answer Question (2 marks) each</b> | <b>Short Answer Question (3 marks) each</b> | <b>Short Answer Question (4 marks) each</b> | <b>Long Answer Question1 80-100 words (5 marks) each</b> | <b>Long Answer Question2 120-150 words (6 marks) each</b> | <b>Very Long Answer Question 150-200 words (HOTS) (8 marks each)</b> | <b>Total marks</b> |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------|--------------------|
| Reading Comprehension     | Conceptual understanding, decoding, Analyzing, inferring, interpreting, appreciating, literary, conventions and vocabulary, summarizing and using appropriate format/s | Objective Type Questions 6<br>MCQs 6                        | -                                           | 1                                           | -                                           | 1                                                        | -                                                         | -                                                                    | 20                 |
| Writing Skill and Grammar | Reasoning, appropriacy of style and tone, using and tone, using appropriate format and fluency, inference, analysis, evaluation and creativity                         | 6                                                           | -                                           | -                                           | 1                                           | -                                                        | 2                                                         | 1                                                                    | 30                 |



# **SAMPLE PAPER**

HALF YEARLY EXAMINATION – 2019-20

CLASS – XI

M.M - 80

SUBJECT – ENGLISH (CORE)

TIME – 03.00 HRS

General Instruction:

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

## **SECTION A (READING 20 marks )**

**Q1. Read the following passage carefully and answer the questions that follow : 12 marks**

1. Like Celine Dion's Academy Award-winning Titanic theme song, 'My Heart Will Go On', the mystery around what led to the sinking of the superliner on 14th April, 1912, it seems, will continue forever. So even one hundred years after the incident happened, we have yet another theory bobbing to the surface. To recount the old official tale, MS Titanic was on its way from Southampton to New York when it struck an iceberg just off the coast of Newfoundland. The glancing blow hit the 100-metre long standard section of the hull, creating a huge fissure in its hull. Seawater rushed inside its six supposedly watertight compartments. Soon all the cabins were flooded and within the next three hours, the ship went down. More than 1500 people lost their lives in the disaster. According to some hypotheses, Titanic was doomed from the start by the design so many lauded as state of the art.

2. But not many bought this theory and a legion of stories about the legend began to come out. The latest has been floated by science writer Richard Corfield who says that the rivets that held the ship's powerful hull together were not according to their specifications in composition or



quality and gave way when the ship hit the iceberg. A quick web search, however, reveals that the fascinating thing called the human mind is capable of much more, while one pinned the accident down to a fire inside the ship's coal bunkers, another one talked about the curse of the Pharaohs because a traveller had with him a sarcophagus containing the mummy of an ancient Egyptian priestess. Other than these glamorous theories, there are the ordinary ones: the helmsman making a steering blunder and the ship moving too fast to win the Blue Riband ,a prestigious prize awarded to a ship for making the fastest North Atlantic crossing.

3. So what makes the Titanic story tick? From the very beginning, its story was tailor-made to be fascinating .Investigating it made good business too: from books to research grants to underwater expeditions, not to mention a mega budget movie. In other words, the Titanic story has been done to death. May be the hundredth year is a good time to leave the ship in its watery grave once and for all.

A. On the basis of your reading the above passage, complete the statements given below by choosing the most appropriate option:(1X6=6)

(i)The Titanic had started from.....

(a)Southampton

(b)New York

(c)New Foundland

(d)Egypt

(ii)According to Richard Corfield, the cause of sinking of the Titanic was.....

(a)The cursed mummy being carried in the ship

(b)The helmsman moving the ship too fast

(c)The poor quality of the rivet

(d)A fire inside the ship's coal bunkers

(iii)The prize for the fastest ship to cross the North Atlantic was the .....

(a)Sarcophagus

(b)Blue Riband

(c)North Atlantic prize

(d)Both (a) and (c)

(iv)Investigation of the Titanic story led to good business in.....

(a)Ship construction

(b)underwater fishing

(c)Tailor-made stories

(d)Publishing books

(v)The idiom 'done to death 'means

(a) discussed so much that it would not be forgotten

(b) discussed so much that it has become boring

(c) discussed so much that it has become interesting

(d)none of these

(vi) The word.....in paragraph 3 means 'remain in the limelight'

(a)fascinating

(b)tick

(c)prominent

(d)business

B.On the basis of your reading of the above passage, answer the following questions briefly.(1X4=4)

(i)How can Celine Dion's Academy Award-winning Titanic theme song be compared with the mystery around what led to the sinking of the Titanic?

(ii)How did the Titanic sink, according to the official story?

(iii)What blunder did the helmsman make and why?

(iv) The people who benefitted from the Titanic disaster were \_\_\_\_\_

C. Which word in the passage means the same as:(1X2=2)

(i)highly praised(para 1)

(ii)attached (para 2)

**2. Read the following passage and answer the questions that follow – ( 8 marks)**

For more than half a century a number of Indian universities have been running courses in journalism but it remains an enigma that even now the country is without a well-developed educational programme for the mass media. We have developed some fine and prestigious training institutions for catering, business management, architecture, engineering, medicine and other professions but university programmes for training in journalism have remained anemic.

Prof, Eapen, who has been associated with journalism education since the mid fifties, pleads strongly for universal participation in journalism education and training and maintains that our universities which turn out excellent material in engineering, medicine and several other fields of human activity, should also succeed where journalism is concerned.

Eapen sees the Indian Press patterned on the British model in the matter of recruitment and training. Britain had its Fleet Street but no schools of journalism. Then why should there be university courses in journalism in India? London did have a journalism course at King's College as early as 1919. But he feels that the conventional frame of education may not be fully relevant to an occupation such as journalism which relies so much on the conscience of the practitioner. At the same time, he holds on to his contention that information workers need to be given high quality education in the art and science of communication which is possible only in an academic atmosphere. He points to the success of the American experiment in this regard.

The author laments that, ethics as a topic is not treated at length in any of the universities. Doctors, lawyers, other professionals, have taken hold of their training. They have established their standards of proficiency and developed codes of ethics and means of enforcing them, but there is no Hippocratic oath for journalists.

Discussing the shortcomings of journalism education as it stands in India today, he says senior journalists, are not interested in teaching journalism. This has stunted the growth of journalism education. It has created a situation where there hardly is another field of study in India in which the standard on instruction is as low as in journalism training. Some faculty members do not have the necessary academic or professional qualifications to be university teachers.

University courses in journalism are in such a sorry state, that editors do not depend on these courses as the suppliers of trained manpower for their papers. But a substantial newspaper initiative in this direction is required.

(2.1) On the basis of your reading of the passage make notes on it using recognizable abbreviations wherever necessary. Give a suitable title also to the passage. (5 marks)

(2.2) Write a summary of the above passage on the basis of your notes in not more than 80 words. (3 marks)

### **SECTION B (WRITING AND GRAMMAR) (30 marks)**

3. You are Isha of R.K. memorial Sr. Sec. School. Gurgaon. As the cultural secretary of your school, write a notice in about 50 words for your school notice board inviting names for the excursion trip to Goa planned in the last week of October. Give all relevant details. (4 Marks)

OR

There has been a constant rise among school going children in substance use and drug addiction. Your school has decided to organize a workshop to create awareness among the

children about the effects of drug addiction. Draft a poster on 'Say No to Drugs' to be displayed in the workshop.

4. You are Ankit/Ankita living at 152, Mayur Vihar, Phase- II, Karnal. Write a letter to the Commissioner of Traffic Police of your city complaining about the absence of Traffic Lights at the crossroads of the main market resulting in regular traffic chaos in the area. Ask him to depute a traffic policeman till the traffic signals are installed. (6 marks)

OR

You are Harsh/Harshita living at G-504, M G Road, Gwalior. Write a letter to the Course Director, Department of Distance Education, Dr. Hari Singh Gour University, Sagar, Madhya Pradesh, making enquiries about a correspondence course in Diploma in Yoga Education. Request him/her to supply all the details of the course.

5. Write a letter to the Editor, The Indian Express, Mumbai sharing your views and concerns about the problems caused by heavy rains every year in Mumbai and other metropolitan cities. Sign yourself as Sunil/Sunita of H-235, Kasturi Apartment, Juhu, Mumbai. (150-200 words) (6 marks)

OR

You are Gaurav/Garvita living at L-108, Sector-25, Chandigarh. You are disturbed to see the recent trend among the Television and film industry people who prefer to shoot abroad despite India's rich natural beauty. Write a letter to the Editor of The Tribune, Chandigarh sharing your views and ideas about the need to encourage them to use the Indian locations for shooting. (150-200 words)

6. You are Anil/Anita. You are concerned to notice the drastic climatic changes and rise in global temperature. The need of the hour is to plant more trees Write an article on "Each one plant one" (150-200 words) (8 Marks)

OR

As the School Captain of Delhi Public School, Meerut you have to deliver a speech on the topic “Duties and responsibilities of the School council” Write the speech in about 150-200 words. You are Ritik/Ritika.

7. The following paragraph has not been edited. There is an error in each line. Read the paragraph carefully and edit the error. The first error has been edited for example. (1/2 x 6 =3)

|                                             | Error      | Correction |
|---------------------------------------------|------------|------------|
| Elimination of child labour are undoubtedly | <u>are</u> | <u>is</u>  |
| one of a biggest challenges faced by our    | (a) _____  | _____      |
| country. Much laws of our constitution      | (b) _____  | _____      |
| prohibits child labour in any form. It      | (c) _____  | _____      |
| have been stated in Article 24 that no      | (d) _____  | _____      |
| child below the age 14 shall be employ      | (e) _____  | _____      |
| in many hazardous occupation or work.       | (f) _____  | _____      |

8. Look at the words and phrases below. Rearrange them to form meaningful sentences. (1x3=3)

- (a) love / of others / good manners / and / win the / respect
- (b) when / best / they can / one is / be learnt / young
- (c) saves us / turns away / soft answer / anger and / pitfalls / from many/a

**SECTION C (TEXT BOOKS : 30 marks)**

9. Read the stanza given below and answer any two questions that follow: (1 x 2 = 2 Marks)

Upward to heaven, whence, vaguely formed,  
altogether changed, and yet the same,  
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 is 'I' in the above lines ?
- (b) How does the rain make the earth beautiful?
- (c) What happens to the seeds after the rain?

OR

The laburnum top is silent, quite still  
In the afternoon yellow September sunlight,  
A few leaves yellowing, all its seeds fallen.

- a) Describe the laburnum tree before the arrival of the goldfinch.
- b) What is the mood in these lines?
- c) What disturbs the peace of the laburnum tree?

**10. Answer any five of the following questions in about 30-40 words : (2x5 = 10 Marks)**

- (i) State the emotional and mental condition of the poet as she looks at the photograph?
- (ii) With examples from the text show that the grandmother was a religious lady.
- (iii) How has Archeology changed substantially in the modern times?( Discovering Tut: the saga continues)
- (iv) Why was Aram delighted and frightened to see Mourad on a beautiful white horse?
- (v) Sometimes it is better to forget old memories as they create hindrance to move on in life .Explain with reference to the chapter 'The Address.'

(vi) What was the root cause of conflict between the History teacher and Albert?

**11. Answer the following questions in about 120-150 words. (6 marks)**

What inspired the author to undertake such a risky voyage? What was his experience?

OR

Write a note on the concept of *Shanshui*. How does it illustrate the Daoist view of the universe?

**12. Answer the following question in about 120-150 words. (6 Marks)**

Einstein was in conflict with the established norms and values of his school days. Discuss with reference to the story “Albert Einstein at School.”

OR

Do you think Ranga’s marriage was a consequence of the plot of the narrator or the prediction of the astrologer? Substantiate your answer.

**13. Answer the following question in about 120-150 words. (6 marks)** In the lesson “The Portrait of a Lady”, describe how the bond of friendship between the author and his grandmother grew strong and then weak with the passage of time.

OR

In 1922 Tut’s tomb was discovered. Much of the treasure buried in the tomb had already been plundered. The materialistic and scientific attitude of man does not allow even the dead to sleep in peace. Discuss with reference to the story: ‘Discovering Tut: the saga continues’

\_\_\_\_\_ The End \_\_\_\_\_



**SAMPLE PAPER**

अर्द्धवार्षिक परीक्षा 2019 - 20

समय 3 घंटे,

विषय -हिंदी (आधार),

पूर्णांक 80+20=100,

कक्षा 11<sup>वीं</sup>प्रश्न पत्र का प्रारूप (नील पत्र)

| खंड |     | विषय                                                                                                      | अंक |
|-----|-----|-----------------------------------------------------------------------------------------------------------|-----|
| (क) |     | अपठित अंश                                                                                                 | 16  |
|     | 1.  | अपठित गद्यांश - बोध ( गद्यांश पर आधारित बोध,प्रयोग,रचनांतरण शीर्षक आदि पर लघूत्तरात्मक प्रश्न (2x4)+(1x2) | 10  |
|     | 2.  | दो में से एक अपठित काव्यांश बोध (काव्यांश पर आधारित 6 लघूत्तरात्मक प्रश्न                                 | 06  |
| (ख) |     | कार्यालय हिंदी और रचनात्मक लेखन (अभिव्यक्ति और माध्यम पुस्तक के आधार पर)                                  | 20  |
|     | 3.  | दी गई स्थिति / घटना के आधार पर दृश्य लेखन (विकल्प सहित)                                                   | 05  |
|     | 4.  | औपचारिक पत्र/ स्व-वृत्त लेखन/ रोजगार संबंधी आवेदन पत्र (विकल्प सहित)                                      | 05  |
|     | 5.  | व्यावहारिक लेखन प्रतिवेदन/ प्रेस विज्ञप्ति/ परिपत्र/ कार्यसूची/ कार्यवृत्त इत्यादि (विकल्प सहित)          | 03  |
|     | 6.  | जनसंचार माध्यम और पत्रकारिता के विविध आयामों पर चार लघूत्तरात्मक प्रश्न (विकल्प सहित)                     | 04  |
|     | 7.  | शब्दकोश परिचय से संबंधित एक प्रश्न (विकल्प सहित)                                                          | 03  |
| (ग) |     | पाठ्यपुस्तक                                                                                               | 44  |
|     |     | 1. आरोह भाग 01                                                                                            | 32  |
|     |     | अ काव्य भाग                                                                                               | 16  |
|     | 8.  | दो काव्यांशों में से किसी एक काव्यांश पर अर्थ ग्रहण से संबंधित तीन प्रश्न (2x3)                           | 06  |
|     | 9.  | एक काव्यांश के सौंदर्य बोध पर 3 में से 2 प्रश्न (3x2)                                                     | 06  |
|     | 10. | कविताओं की विषय वस्तु पर आधारित 3 में से 2 लघूत्तरात्मक प्रश्न (2x2)                                      | 04  |
|     |     | ब. गद्य भाग                                                                                               | 16  |
|     | 11. | गद्यांश पर आधारित अर्थ ग्रहण से संबंधित चार प्रश्न(2x3) (1x1)                                             | 07  |
|     | 12. | पाठों की विषय वस्तु पर आधारित चार में से तीन बोधात्मक प्रश्न (3x3)                                        | 09  |
|     |     | 2. वितान भाग 01                                                                                           | 12  |
|     | 13. | पाठों की विषय वस्तु पर आधारित दो में से एक प्रश्न(4x1)                                                    | 04  |
|     | 14. | पाठों की विषय वस्तु पर आधारित तीन में से दो निबंधात्मक प्रश्न (4x2)                                       | 08  |
| (घ) |     | क. श्रवण तथा वाचन                                                                                         | 10  |
|     |     | ख. परियोजना                                                                                               | 10  |
|     |     | कुल                                                                                                       | 100 |

# SAMPLE PAPER

## अर्द्धवार्षिक परीक्षा 2019-20

कक्षा : 11वीं

समय : 3 घंटे

विषय : हिंदी (आधार)

पूर्णांक : 80

- नोट- (1) कृपया जाँच लें कि इस प्रश्न पत्र में तीन खंड 'क', 'ख', 'ग' और कुल 14 प्रश्न हैं।  
(2) सभी प्रश्न अनिवार्य हैं।

### खंड -क

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

विद्यार्थी का अहंकार आवश्यकता से अधिक बढ़ता जा रहा है दूसरा उसका ध्यान अधिकार पाने में है, अपना कर्तव्य पूरा करने में नहीं। अहम् बुरी चीज कही जा सकती है। यह सबमें होता है और एक सीमा तक आवश्यक भी है। किन्तु आज के विद्यार्थी में यह इतना बढ़ गया है कि विनय के गुण उनमें नाम मात्र के नहीं रह गए हैं। गुरुजनों या बड़ों की बात का विरोध करना उनके जीवन का अंग बन गया है। इन्हीं बातों के कारण विद्यार्थी अपने अधिकारों के बहुत अधिकारी नहीं हैं। उसे भी वह अपना समझने लगे हैं। अधिकार और कर्तव्य दोनों एक-दूसरे से जुड़े रहते हैं। स्वस्थ स्थिति वही कही जा सकती है जब दोनों का संतुलन हो। आज का विद्यार्थी अधिकार के प्रति सजग है परन्तु वह अपने कर्तव्यों की ओर से विमुख हो गया है। एक सीमा की अति का दूसरे पर भी असर पड़ता है।

- |                                                                   |   |
|-------------------------------------------------------------------|---|
| (क) आधुनिक विद्यार्थियों में नम्रता की कमी क्यों होती जा रही है ? | 2 |
| (ख) विद्यार्थी प्रायः किसका विरोध करते हैं ?                      | 2 |
| (ग) विद्यार्थी में किसके प्रति सजगता अधिक है ?                    | 2 |
| (घ) अधिकार और कर्तव्य में क्या संबंध है ?                         | 2 |
| (च) गद्यांश का उचित शीर्षक दीजिए।                                 | 1 |
| (छ) 'संतुलन' और 'स्वस्थ' शब्द के विलोम शब्द लिखिए।                | 1 |

प्रश्न 2 निम्नलिखित काव्यांश को पढ़कर पूछे गए प्रश्न के उत्तर दीजिए - 1 X 6 = 6

रोमांचित-सी लगती वसुधा आई जौं गेहूँ में बाली,  
अरहर सनई की सोने की किंकणियाँ हैं शोभाशाली।  
उड़ती भीनी तैलाक्त गंध फूली सरसों पीली-पीली,  
लो, हरित धरा से झाँक रही नीलम की कलि, तीसी नीली।  
अब रजत स्वर्ण मंजरियों से लड़ गयी आम्र तरु की डाली,  
झर रहे ढाक, पीपल के दल हो उठी कोकिला मतवाली।

- (क) कविता का उचित शीर्षक लिखिए।  
(ख) धरती रोमांचित-सी क्यों लग रही है ?

- (ग) 'तैलाक्त गंध' से क्या अभिप्राय है ?  
 (घ) 'नीलम की कली' किसे और क्यों कहा गया है ?  
 (ङ) आम में क्या परिवर्तन आया है ?  
 (च) यहाँ किस ऋतु के प्राकृतिक-सौंदर्य का वर्णन किया गया है ?

### अथवा

यदि फूल नहीं बो सकते तो काँटे कम से कम मत बोओ  
 है अगम चेतना की घाटी, कमजोर बड़ा मानव का मन  
 ममता की शीतल छाया में होता कटुता का स्वयं शमन  
 ज्वालाएँ जब घुल जाती हैं, खुल-खुल जाते हैं मुँदे नयन  
 होकर निर्मलता में प्रशांत, बहता प्राणों का क्षुब्ध पवन ।  
 संकट में यदि मुसका न सको, भय से कातर हो मत रोओ ।  
 यदि फूल नहीं बो सकते तो काँटे कम-से-कम मत बोओ ॥

- (क) 'फूल बोने' और 'काँटे बोने' का प्रतीकार्थ क्या है ?  
 (ख) मन किन स्थितियों में अशांत होता है और कैसी स्थितियाँ उसे शांत कर देती हैं ?  
 (ग) संकट आने पर मनुष्य का व्यवहार कैसा होना चाहिए और क्यों ?  
 (घ) मन में कटुता कैसे आती है और वह कैसे दूर हो जाती है ?  
 (ङ) काव्यांश से दो मुहावरे चुनकर वाक्य प्रयोग कीजिए ।  
 (च) 'निर्मलता' शब्द में मूल शब्द कौनसा है?

### खण्ड - ख

प्रश्न 3 विषय पर आधारित दृश्य लेखन कीजिए ।

5

किसी मेले का दृश्य

### अथवा

सामाजिक विज्ञान प्रदर्शनी का दृश्य

प्रश्न 4 दिल्ली में महिलाओं के प्रति बढ़ रहे अपराधों के कारणों का उल्लेख करते हुए  
 सम्पादक, हिन्दुस्तान, कस्तूरबा गांधी मार्ग, नई दिल्ली को पत्र लिखिए ।

### अथवा

दिल्ली नगर निगम, सिविल लाइंस क्षेत्र, दिल्ली के आयुक्त को प्राथमिक अध्यापक के पद के लिए  
 आवेदन-पत्र लिखिए ।

5

प्रश्न 5 अपने विद्यालय में आयोजित होने वाले खेलोत्सव से संबन्धित समिति की बैठक का कार्यवृत्त  
 तैयार कीजिए ।

### अथवा

अपने मोहल्ले में मनाए गए गोवर्धन पूजा समारोह का प्रतिवेदन तैयार कीजिए ।

3

प्रश्न 6 निम्नलिखित प्रश्नों में से किन्हीं चार प्रश्नों के उत्तर दीजिए

1×4=4

- (क) जनसंचार के माध्यम कौन-कौन से हैं ?  
 (ख) समाचारों को संकलित करने वाले को किस नाम से जाना जाता है?  
 (ग) पत्रकारिता से आप क्या समझते हैं ?  
 (घ) समाचार माध्यमों में काम करने वाले पत्रकारों के प्रकार लिखिए ।

(च) 'बीट' से क्या आशय है ?

प्रश्न 7 नीचे दिए गए शब्दों को शब्दकोषीय क्रम में लिखिए ।

3

भार्गव,शब्दकोश,भारतीय,अमिट,आकाश, विकट, प्रतिष्ठित,हमदर्द,शोक,ज्ञानी,अर्थ,क्षत्रिय ।

**अथवा**

आशा,तृष्णा,कहानी,कवि,मातृत्व,निबंध,प्रकाशन,योग्यता,विशिष्ट,द्रोही,संकलित, मनु ।

**खण्ड-ग**

प्रश्न 8 निम्नलिखित काव्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर लिखिए -

2 X 3 = 6

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 की बहन को अपना मायका 'परिताप का घर' क्यों लगा होगा ?

(ख) 'भुजा भाई प्यार बहिनें' का आशय स्पष्ट कीजिए ।

(ग) कवि के पारिवारिक संबंधों पर प्रकाश डालिए ।

**अथवा**

चम्पा बोली : तुम कितने झूठे हो, देखा,

हाय राम, तुम पढ़-लिख कर इतने झूठे हो

में तो ब्याह कभी न करूँगी

और कहीं जो ब्याह हो गया

तो मैं अपने बालम को संग साथ रखूँगी

कलकत्ता में कभी न जाने दूँगी

कलकत्ते पर बजर गिरे ।

(क) चंपा कवि पर झूठा होने का आरोप क्यों लगाती है?

(ख) वह पढ़ने-लिखने के लाभों की काट किस प्रकार करती है?

(ग) चंपा अपने बालम के बारे में क्या कल्पना करती है?

प्रश्न 9 निम्नलिखित काव्यांश को पढ़कर पूछे गए प्रश्नों में से किन्हीं दो के उत्तर दीजिए- 3 X 2 = 6

मेरे तो गिरधर गोपाल , दूसरो न कोई

जा के सिर मोर-मुकुट मेरो पति सोई

छाँड़ि दयी कुल की कानि, कहा करिहै कोई ?

संतन ढिग बैठि-बैठि लोक-लाज खोयी ।

(क) किन्हीं दो अलंकारों को स्पष्ट कीजिए ।

(ख) काव्यांश की भाषा की दो विशेषताएँ लिखिए ।

(ग) काव्यांश का भाव-सौंदर्य स्पष्ट कीजिए ।

प्रश्न 10 निम्नलिखित प्रश्नों में से किन्हीं दो के उत्तर दीजिए -

2 X 2 = 4

(क) 'वे आँखें' कविता में किसान की पीड़ा के लिए किन्हीं ज़िम्मेदार बताया गया है ?

(ख) कबीर ने किसे और क्यों दीवाना कहा है ?

(ग) 'दुष्यंत की गज़ल का मिज़ाज बदलाव के पक्ष में है' पठित गज़ल के आधार पर स्पष्ट कीजिए ।

प्रश्न 11 निम्नलिखित गद्यांश को पढ़कर पूछे गए प्रश्नों के उत्तर दीजिए -

मियाँ नसीरुद्दीन ने पञ्चहज़ारी अंदाज़ से सिर हिलाया- 'निकाल लेंगे वक्त थोड़ा, पर यह तो कहिए, आपको पूछना क्या है ?'

फिर घूरकर देखा और जोड़ा - मियाँ, कहीं अखबार नवीस तो नहीं हो ? यह तो खोज़ियों की खुराफ़ात है । हम तो अखबार बनाने वाले और अखबार पढ़नेवाले दोनों को ही निठल्ला समझते हैं । हाँ - कामकाजी आदमी को इससे क्या काम है । खैर, आपने यहाँ तक आने की तकलीफ़ उठाई ही है तो पूछिए-क्या पूछना चाहते हैं !'

(क) 'पञ्चहज़ारी अंदाज़' से क्या आशय है? 2

(ख) मियाँ नसीरुद्दीन अखबार नवीसों के बारे में क्या राय रखते थे ? 2

(ग) नसीरुद्दीन के स्वभाव की प्रमुख विशेषताओं पर प्रकाश डालिए । 2

(घ) अखबार पढ़नेवालों को निठल्ला क्यों गया होगा ? 1

प्रश्न 12 किन्हीं तीन प्रश्नों के उत्तर लिखिए -

3 x 3 = 9

(क) 'नमक का दरोगा' कहानी के आधार पर अलोपीदीन का चरित्र-चित्रण कीजिए ।

(ख) धनराम को मोहन के किस व्यवहार पर आश्चर्य होता है और क्यों ?

(ग) कर्ज़न को इस्तीफ़ा क्यों देना पड़ गया ?

(घ) स्पीति के लोग किस तरह जीवन-यापन करते हैं ?

प्रश्न 13 चेजारो के साथ गाँव-समाज के व्यवहार में पहले की तुलना में आज क्या फ़र्क आया है ?

'राजस्थान की रजत बूँदें' पाठ के आधार पर बताइए ।

**अथवा**

**4**

चित्रपट संगीत ने लोगों के कान बिगाड़ दिए हैं। अक्सर यह आरोप लगाया जाता है- इस संदर्भ में अपनी राय स्पष्ट कीजिए ।

प्रश्न 14 निम्नलिखित में से किन्हीं दो प्रश्नों के उत्तर लिखिए -

4 + 4 = 8

(क) लता और नूरजहाँ के स्वरों में मुख्य अंतर क्या है ?

(ख) आम श्रोता संगीत के किस गुण से प्रभावित होता है ?

(ग) चेजारो अपने सिर की रक्षा कैसे करते हैं ?

-----

**SAMPLE PAPER**  
**HALF YEARLY EXAMINATION 2019-20**  
**CLASS XI**  
**MATHEMATICS**  
**BLUE PRINT**

| S .NO. | CHAPTER                                 | 1 mark | 2marks | 4marks | 6marks | QUESTION(MARKS) |
|--------|-----------------------------------------|--------|--------|--------|--------|-----------------|
| 1      | SETS                                    | 3(3)   | 1(2)   | ---    | 1(6)   | 5(11)           |
| 2      | RELATIONS AND FUNCTIONS                 | 3(3)   | 1(2)   | 1(4)   | ----   | 5(9)            |
| 3      | TRIGONOMETRY                            | 5(5)   | -----  | 3(12)  | -----  | 8(17)           |
| 4      | PRINCIPLE OF MATHEMATICAL INDUCTION     | -----  | -----  | ---    | 1(6)   | 1(6)            |
| 5      | COMPLEX NUMBERS AND QUADRATIC EQUATIONS | 3(3)   | 1(2)   | 1(4)   | -----  | 5(9)            |
| 6      | LINEAR INEQUALITIES                     | 2(2)   | 1(2)   | -----  | 1(6)   | 4(10)           |
| 7      | PERMUTATIONS AND COMBINATIONS           | 2(2)   | 1(2)   | 1(4)   | ----   | 4(8)            |
| 8      | BINOMIAL THEOREM                        | 2(2)   | 1(2)   | -----  | 1(6)   | 4(10)           |
|        | TOTAL                                   | 20(20) | 6(12)  | 6(24)  | 4(24)  | 36(80)          |

# SAMPLE PAPER

## HALF YEARLY Examination 2019-20

### Subject: Mathematics

Class: XI

Time: 3 Hrs

M.M.: 80

Name: \_\_\_\_\_

Roll No. \_\_\_\_\_

#### General Instructions:

1. All questions are compulsory however internal choices have been provided in some questions.
2. This question paper contains 36 questions. Question number 1 to 10 are multiple choice questions, write correct option of these questions.
3. Questions 1 – 20 in Section A carry 1 mark each.
4. Questions 21 – 26 in Section B carry 2 marks each.
5. Questions 27 – 32 in Section C carry 4 marks each.
6. Questions 33 – 36 in Section D carry 6 marks each.
7. Use of calculator is not permitted. You may ask for logarithmic table, if required.

#### Section –A

- Q1: The number of subsets of a set containing  $n$  elements is (1 mark)  
(A)  $n-1$  (B)  $2^n-1$  (C)  $n^2$  (D)  $2^n$
- Q2: For any 2 sets A and B ,  $A \cap (A \cup B)'$  is equal to (1 mark)  
(A) A (B) B (C)  $\emptyset$  (D)  $A \cap B$
- Q3: If  $R=\{(x, y): x, y \in Z, x^2 + y^2 \leq 4\}$  is a relation on Z then domain of R is (1 mark)  
(A)  $\{0,1,2\}$  (B)  $\{0, -1, -2\}$  (C)  $\{-2, -1,0,1,2\}$  (D) none of these
- Q4: If  $x=r \sin a \cos b$  ,  $y=r \sin a \sin b$  and  $z= r \cos a$  , then  $x^2+y^2+z^2$  doesn't depend on (1 mark)  
(A) a and b (B) r and a (C) r and b (D) r
- Q5: Convert angle  $1^\circ$  into seconds (1 mark)  
(A)  $\pi$  seconds (B) 60 seconds (C) 360 seconds (D) none of these
- Q6: The value of  $\cos 52^\circ + \cos 68^\circ + \cos 172^\circ$  is (1 mark)  
(A) 0 (B)  $5/8$  (C) 1 (D)  $3/2$
- Q7: If  $z = 1 - \cos x + i \sin x$  , then  $|z| =$  (1 mark)  
(A)  $2 \sin \frac{x}{2}$  (B)  $2 \cos \frac{x}{2}$  (C)  $2 \left| \sin \frac{x}{2} \right|$  (D)  $2 \left| \cos \frac{x}{2} \right|$

Q8: If  $x$  is a real number and  $|x| < 5$ , then (1 mark)  
 (A)  $x \geq 5$  (B)  $-5 < x < 5$  (C)  $x \leq 5$  (D)  $x \in R - (-5, 5)$

(1 mark)

Q9: How many words with or without meaning can be formed using all the letters of the word `ARTICLE` so that vowels occupy even places only

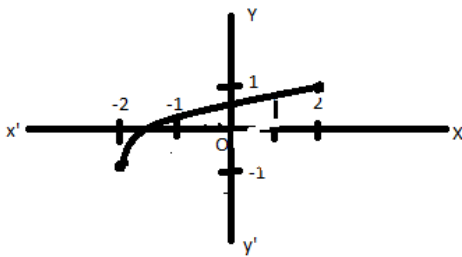
(A) 370 (B) 35 (C) 254 (D) 144

Q10: Find  $(a + b)^4 - (a - b)^4$  (1 mark)

(A)  $16(ab+a+b)$  (B)  $16a^2b^2$  (C)  $8(a^3b+ab^3)$  (D)  $8(a^3b^2+a^2b^3)$

Q11: If  $A$  is the set of all quadrilaterals with at least 1 side different from other sides in length, then what is complement of set  $A$  ? (1 mark)

Q12: By observing the graph in the figure given below for the function  $y = f(x)$ , find out its range. (1 mark)



Q13: If  $A = \{1, 2, 3\}$ ,  $B = \{x, y\}$  then find the number of Relations which can be defined from  $A$  to  $B$ . (1 mark)

Q14: Define 1 radian. (1 mark)

Q15: A wheel makes 360 revolutions in 2 minutes .Through how many radians does it turn in one second? (1 mark)

Q16: Solve the equation :  $x^2 - 4x + 13 = 0$  (1 mark)

Q17: Find the argument of  $\frac{1}{i}$  (1 mark)

Q18: Solve  $5x + 9 > 7x + 3$  and represent the solution on real number line. (1 mark)

Q19: If  ${}^{43}C_{r-6} = {}^{43}C_{3r+1}$ , then find the value of  $r$ . (1 mark)

Q20: Find the 5<sup>th</sup> term in the expansion of  $(x-2y)^{12}$  (1 mark)



## Section – B

- Q 21: A survey shows that 76% of Indians like oranges whereas 62% like bananas. Each Indian like at least one of the two fruits. What is the % of Indians who like both the fruits ? (2 marks)

OR

- If  $A = \{(x, y) : y = \frac{1}{x}, 0 \neq x \in R\}$  and  $B = \{(x, y) : y = -x, x \in R\}$  then write  $A \cap B$ . (2 marks)

- Q22: Write the relation  $R = \{(x, x^3) : x \text{ is a prime number less than } 10\}$  in roster form. (2 marks)

- Q23: Find real  $x$  such that  $\frac{3+2i \sin x}{1-2i \sin x}$  is purely real. (2 marks)

Or

Find the multiplicative inverse of  $2+i$ . in the form of  $a+ib$

- Q24: The longest side of a triangle is 3 times the shortest side and the third side is 2 cm shorter than the longest side. If the perimeter of the triangle is at least 61 cm, find the minimum length of the shortest side. (2 marks)

- Q25: How many 3 digit numbers more than 600 can be formed by using the digits 2,3,4,6,7 if repetition is allowed ? (2 marks)

OR

A bag contains 5 red and 6 black balls. Determine the number of ways of selection of 2 red and 2 black balls. (2 marks)

- Q26: Find  $n$ , if the ratio of the fifth term from the beginning to the fifth term from the end in the expansion of  $(\sqrt[4]{2} + \frac{1}{\sqrt[4]{3}})^n$  is  $\sqrt{6} : 1$ . (2 marks)

## Section – C

- Q27: If all the letters of the word AGAIN be arranged as in a dictionary, what is the 47<sup>th</sup> word ? (4 marks)

OR

A polygon has 44 diagonals. Find the number of sides. (4 marks)

- Q28: Convert the complex number  $\frac{-16}{1+i\sqrt{3}}$  into polar form. (4 marks)

OR

Find the square root of  $1-i$ . (4 marks)

- Q29: Find the value of  $\tan \frac{\pi}{8}$ . (4 marks)

- Q30: If  $\tan x = 4/3$  and  $x$  lies in third quadrant, then find the value of  $\sin \frac{x}{2}$  and  $\cos \frac{x}{2}$ . (4 marks)

Q31: Solve the trigonometric equation  $\cos 3x + \cos x - \cos 2x = 0$ . (4 marks)

Q32: Let  $f = \left\{ \left( x, \frac{x^2}{1+x^2} \right) : x \in R \right\}$  be a real function. Determine the domain and range of  $f$ . (4 marks)

### Section – D

Q33: The 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> terms in the expansion of  $(x+a)^n$  are 84, 280 and 560 respectively, find the value of  $x$ ,  $a$  and  $n$ . (6 marks)

OR

Find the coefficient of the term independent of  $x$  in the expansion of

$$\left\{ \frac{x+1}{x^{2/3}-x^{1/3}+1} - \frac{x-1}{x-x^{1/2}} \right\}^{10} \quad (6 \text{ marks})$$

Q34: Solve the following inequalities graphically : (6 marks)

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

Q35: Using the principle of mathematical induction prove that  $x^{2n} - y^{2n}$  is divisible by  $x-y$ ,  $\forall n \in N$  (6 marks)

Or

Using the principle of mathematical induction prove that  $n(n+1)(n+5)$  is the multiple of 3

Q36: In a survey of 100 students, the number of students studying the various languages were found to be as follows: English only 18, English but not Hindi 23, English and Sanskrit 8, English 26, Sanskrit 48, Sanskrit and Hindi 8, no language 24. Find:  
(i) How many students were studying Hindi?  
(ii) How many students were studying English and Hindi? (6 marks)

-----END-----

**CLASS – XI**  
**HALF YEARLY EXAMINATION 2019**  
**SUBJECT – PHYSICS (THEORY)**  
**BLUE PRINT**

| S. No.       | NAME OF UNIT                               | VSA<br>(Objective Type)(1mark)<br>Question (Marks) | SA<br>(2marks)<br>Question (Marks) | LA-I<br>(3marks)<br>Question (Marks) | LA-II(5marks)<br>Question (Marks) | TOTAL<br>Question (Marks)      |
|--------------|--------------------------------------------|----------------------------------------------------|------------------------------------|--------------------------------------|-----------------------------------|--------------------------------|
| 1.           | Physical World & Measurement               | 3(3)                                               | 1(2)                               | *                                    | *                                 | <b>20 Questions (37 Marks)</b> |
| 2.           | Kinematics                                 | 4(4)                                               | 2(4)                               | 1(3)                                 | 1(5)                              |                                |
| 3.           | Laws of Motion                             | 4 (4)                                              | 2(4)                               | 1(3)                                 | 1(5)                              |                                |
| 4.           | Work,Energy&Power                          | 3(3)                                               | *                                  | 1(3)                                 | 1(5)                              | <b>17 Questions (33 Marks)</b> |
| 5.           | Motion of System of Particles & Rigid Body | 4 (4)                                              | *                                  | 2(6)                                 | *                                 |                                |
| 6.           | Gravitation                                | 2 (2)                                              | 2(4)                               | 2(6)                                 | *                                 |                                |
| <b>Total</b> |                                            | <b>20 (20)</b>                                     | <b>07 (14)</b>                     | <b>07 (21)</b>                       | <b>3 (15)</b>                     | <b>37 Questions (70 Marks)</b> |

**Internal choice (33 %)**

**23 marks**

1 Mark – Objective type – No Choice

2 Marks – any one (02)

3 Marks – any two (06)

5 Marks – all three (15)

**Total – 06 Questions (23 Marks)**

# SAMPLE PAPER

Roll No.....

## HALF YEARLY EXAMINATION 2019-20

Class – XI

SUBJECT – PHYSICS

Time: 3 Hrs.

M.M.: 70

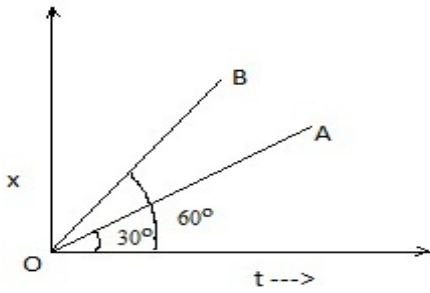
### General Instructions: -

- i) All questions are compulsory.
- ii) There are 37 questions in total. Questions 1 to 20 are Objective/ Multiple Choice Question carry one mark each
- iii) Question 21 to 27 are Short answer questions and carry two marks each.
- iv) Questions 28 to 34 are Long answer questions (LA1) and carry three marks each.
- v) Question 35 to 37 are Long answer questions (LA2) and carry five marks each
- vi) There is no choice; however, an internal choice has been provided in one question of two marks, two questions of three marks and all three questions of five marks each.
- vii) 15 minutes time has been allotted to read this question paper. The students will read the question paper only and will not write any answer during this period

| SECTION– A |                                                                                                                                                                                                 |   |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 1          | A ball falls freely under gravity. The distance covered in the first, second, third seconds of motion are in the ratio:<br><br>(a) 1: 2: 3<br>(b) 1: 4: 9<br>(c) 1: 4: 6<br>(d) 1 : 3 : 5       | 1 |
| 2          | Gravitational force is responsible for?<br><br>(a) Keeping planets on their axes.<br>(b) For the motion of planets around the Sun.<br>(c) Keeping planets in their radii.<br>(d) None of these. | 1 |
| 3          | Which of the followings is an example of work done against gravitational force?                                                                                                                 | 1 |

|    |                                                                                                                                                                                                                                                                                     |   |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|    | <p>(a) Getting up with the stairs</p> <p>(b) Get down with the stairs</p> <p>(c) Walking on the flat ground</p> <p>(d) Dropping any object down from the top</p>                                                                                                                    |   |
| 4  | <p>The percentage error in the volume of a spherical body is 12%. The percentage error in its surface area will be:</p> <p>(a) 20%                      (b) 8%</p> <p>(c) 6%                        (d) None of the above</p>                                                       | 1 |
| 5  | <p>The angular velocity of the second hand of a clock in rad/s is:</p> <p>(a) <math>2\pi</math>                      (b) <math>2\pi \times 60</math></p> <p>(c) <math>2\pi / (24 \times 60)</math>      (d) <math>2\pi / 60</math></p>                                              | 1 |
| 6  | <p>The linear momentum of a body increases by 20%. The kinetic energy changes by</p> <p>(a) increases by 44%</p> <p>(b) decreases by 44%</p> <p>(c) increases by 144%</p> <p>(d) remains same</p>                                                                                   | 1 |
| 7  | <p>The angle of projection at which the horizontal range and maximum height of projectile are equal is:</p> <p>a) <math>45^\circ</math>                      b) <math>60^\circ</math></p> <p>c) <math>\tan^{-1} \frac{1}{4}</math>                  d) <math>\tan^{-1} 4</math></p> | 1 |
| 8  | <p>An earth satellite is moving around the earth in circular orbit. In such case, what is conserved?</p> <p>(a) Velocity                      (b) Linear momentum</p> <p>(c) Angular momentum      (d) None of the above</p>                                                        | 1 |
| 9  | <p>What happens to the coefficient of friction, when weight of a body is doubled?</p>                                                                                                                                                                                               | 1 |
| 10 | <p>The earth is suddenly shrinks to half of its radius. The duration of the day becomes</p> <p>(a) 48 hrs.                      (b) 12 hrs.</p> <p>(c) 6 hrs.                        (d) Remains same</p>                                                                           | 1 |
| 11 | <p>A body of mass 10 kg is moving with a constant velocity of 20 m/s on a horizontal frictionless surface. The force acting on the body will be</p> <p>(a) 200 N                      (b) 200 dyne</p> <p>(c) Zero                        (d) 100 N</p>                             | 1 |

|    |                                                                                                                                                                                                                                                                                  |   |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 12 | If the radius of the earth were to shrink and its mass were to remain the same, the acceleration due to gravity on the surface of the earth will:<br>(a) Decrease      (b) remain the same<br>(c) increase      (d) zero                                                         | 1 |
| 13 | Two ends of a spring balance are pulled each by a force of 5 N. What will be the reading of Spring balance?                                                                                                                                                                      | 1 |
| 14 | How many nanometers constitute 5 meter?                                                                                                                                                                                                                                          | 1 |
| 15 | A stone is dropped from a certain height and at the same time another stone is thrown horizontally from the same height, which stone will reach the ground earlier<br>(a) first stone      (b) second stone<br>(c) simultaneously      (d) none of the above                     | 1 |
| 16 | A long spring is stretched by 2 cm. Its P.E. is V. If the spring is stretched by 10 cm, its P. E. would be :<br>(a) 25V      (b) V/5<br>(c) V/25      (d) 5 V                                                                                                                    | 1 |
| 17 | A truck and a car with the same Kinetic Energy are brought to rest by applying same retarding force. Which of them will come to rest in a shorter distance:<br>(a) truck<br>(b) car<br>(c) both stop at the same distance<br>(d) not sure                                        | 1 |
| 18 | A bomb travelling in a parabolic explodes in midair. The center of mass of fragments will<br>(a) Move vertically upwards and then downwards.<br>(b) Move vertically downwards.<br>(c) Move irregularly.<br>(d) Move in parabolic path, the unexploded bomb would have travelled. | 1 |
| 19 | The sum of the numbers 436.32,227.2 and 0.301 in appropriate significant figures is<br>(a) 663.821<br>(b) 664<br>(c) 663.8<br>(d) 663.82                                                                                                                                         | 1 |

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |   |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| 20          | Why do we place handles at a maximum possible distance from the hinges in a door?                                                                                                                                                                                                                                                                                                                                                                          | 1 |
| SECTION – B |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |   |
| 21          | At what height above the earth's surface, acceleration due to gravity is reduced to 36% from the value on the surface of earth. ( $R = 6400 \text{ km}$ )                                                                                                                                                                                                                                                                                                  | 2 |
| 22          | Distinguish between accuracy and precision with an example.<br><br><b>OR</b><br><br>The Vernier scale of a travelling microscope has 50 divisions which coincide with 49 main scale divisions. If each main scale division is 0.5 mm, calculate the minimum inaccuracy in the measurement of distance.                                                                                                                                                     | 2 |
| 23          | Define angle of repose. Also find its relationship with coefficient of friction.                                                                                                                                                                                                                                                                                                                                                                           | 2 |
| 24          | A jet airplane travelling at the speed of 500 km/h ejects its products of combustion at 500 km/h relative to the jet plane. What is the speed of the later with respect to an observer on the ground?                                                                                                                                                                                                                                                      | 2 |
| 25          | The two straight rays OA and OB on the position-time graph makes angle $30^\circ$ and $60^\circ$ with time axis as shown in the figure.<br><br> <p>(i) which ray represents greater velocity<br/>(ii) What is the ratio of two velocities represented by OA and OB?<br/><b>(FOR VISUALLY IMPAIRED STUDENTS ONLY)</b><br/>Derive position-time equation graphically.</p> | 2 |
| 26          | Ten one rupee coins are put on top of each other on a table. Each coin has mass $m$ . Find the magnitude and direction of force (counted from the bottom)<br>(a) On the 7 <sup>th</sup> coin due to all the coins on its top.<br>(b) On the 5 <sup>th</sup> coin by the 6 <sup>th</sup> coin.                                                                                                                                                              | 2 |
| 27          | State parallel and perpendicular axes theorem of moment of inertia.                                                                                                                                                                                                                                                                                                                                                                                        | 2 |
| SECTION – C |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |   |
| 28          | Explain the following briefly:                                                                                                                                                                                                                                                                                                                                                                                                                             | 3 |

|                    |                                                                                                                                                                                                                                                                                                                                                                     |   |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                    | <p>(a) Automobiles are provided with spring systems.</p> <p>(b) A boy standing in a moving bus falls forward when bus stops suddenly.</p> <p>(c) An athlete runs some steps before taking a jump.</p> <p style="text-align: center;"><b>OR</b></p> <p>State the law of conservation of linear momentum and prove it using Newton's third law of motion.</p>         |   |
| 29                 | <p>Define orbital speed. Also derive expression for it.</p> <p style="text-align: center;"><b>OR</b></p> <p>Define Gravitational Potential Energy. Also derive expression for it.</p>                                                                                                                                                                               | 3 |
| 30                 | <p>State Kepler's laws of planetary motion. Also derive the second law of planetary motion.</p>                                                                                                                                                                                                                                                                     | 3 |
| 31                 | <p>Identify the types of motion represented by A,B,C,D,E and F in the following Displacement-time graph</p> <p style="text-align: center;"><b>(FOR VISUALLY IMPAIRED STUDENTS ONLY)</b></p> <p>The position of a body any instant is given by<br/> <math>X = (5t^3 - 4t^2 + 11t - 4)</math> m. Find position, velocity and acceleration at <math>t = 2</math>s.</p> | 3 |
| 32                 | <p>A ring of diameter 0.4 m and of mass 10 kg is rotating about its geometrical axis at a rate of 35 rotations per seconds. Find (i) Moment of inertia about geometrical axis (ii) angular momentum and (iii) rotational kinetic energy of the ring.</p>                                                                                                            | 3 |
| 33                 | <p>Define centre of mass. In the HCl molecule, the separation between the nuclei of the two atoms is about <math>1.27 \text{ \AA}</math>. Find the approximate location of the CM of the molecule. Given that chlorine atom is 35.5 times heavier than a hydrogen atom. Is it necessary that centre of mass always lies inside the body?</p>                        | 3 |
| 34                 | <p>State and prove work energy theorem.</p>                                                                                                                                                                                                                                                                                                                         | 3 |
| <b>SECTION – D</b> |                                                                                                                                                                                                                                                                                                                                                                     |   |
| 35                 | <p>State and explain the Newton's second law of motion. Hence deduce first and third law of motion from second law of motion.</p> <p style="text-align: center;"><b>OR</b></p>                                                                                                                                                                                      | 5 |



|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|    | With a proper labeled diagram derive the expression for maximum safe velocity of a vehicle on a banked road having coefficient of friction $\mu$ . It is easier to roll a barrel than to pull it along the road. Why?                                                                                                                                                                                                                                                                                                                                                                                                             |   |
| 36 | <p>a) State parallelogram law of vector addition. Also find the resultant vector by analytical method.</p> <p>(b) Find the angle between two vectors <math>\vec{P}</math> and <math>\vec{Q}</math>, if resultant of two vectors is given by <math>R^2 = P^2 + Q^2</math>.</p> <p style="text-align: center;"><b>OR</b></p> <p>A projectile is fired with a velocity <math>u</math> making an angle <math>\theta</math> with the horizontal. Show that the trajectory of the projectile is parabolic. Also derive expression for its (i) Time of flight (ii) Maximum height and (iii) Horizontal range at any instant of time.</p> | 5 |
| 37 | <p>Mention two differences between elastic collision and inelastic collision. Obtain expressions for loss in kinetic energy of two bodies undergoing In-elastic collision in one dimension.</p> <p style="text-align: center;"><b>OR</b></p> <p>What are conservative and non-conservative forces? Mention one property of each. Also show that Gravitational force is a conservative force.</p>                                                                                                                                                                                                                                  | 5 |

- END OF PAPER -