ALL KERALA BHAVAN'S
SCHOLARSHIP EXAMINATION 2019-20

STD: XI Science

Duration :2 hrs
Max. Marks: 100

GENERAL INSTRUCTIONS

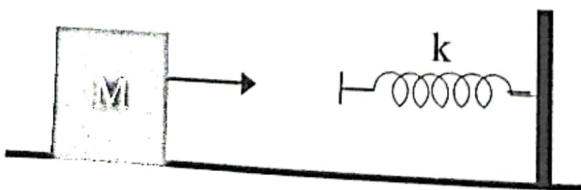**Read the instructions carefully before answering**

1. Please fill up your Roll No. and class in the box provided on the answer sheet.

2. This question booklet contains 50 questions and 5 Tie Breaker questions. All questions including Tie Breaker Questions are mandatory. Tie Breaker questions would be evaluated only in case of a Tie.

3. All candidates have to attend questions 1 to 36 compulsorily

4. Remaining 14 questions have to be selected as per the candidate's subject options.

5. Each question carries 2 marks.

6. Each question has 4 answer choices a,b,c,d.

7. For each question, select the best/correct option and darken the bubble completely against the corresponding question in the answer sheet provided.

8. Use blue/black ball point pen to darken the bubble.

9. Darken only one bubble against each question.

10. There will be no negative marking.

STD XI

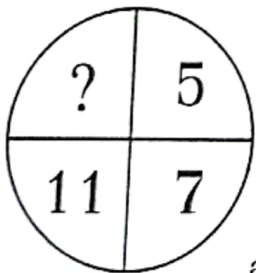Choose the Correct answer from the options given.

1. 'Leaves of Grass' is an anthology written by _____.
   a) Sylvia Plath   b) Ted Hughes   c) Walt Whitman   d) D.H. Lawrence

2. The money pouch was found lost since yesterday evening. – Identify the literary device employed in the given sentence.
   a) Synecdoche   b) Oxymoron   c) Transferred Epithet   d) Metaphor

3. "She stokes it full then flirts out". What is the figurative meaning of 'Stoking' here?
   a) Adding life and enthusiasm   b) To console or comfort
   c) To hit at something quite hard   d) Hop from branch to branch

4. Fill up a suitable word from the given options.
   Her parents being critically sick, Sneha found her only _____ in her uncle to move forward in life.
   a) Anchor   b) Rival   c) Connoisseur   d) Anomaly

5. What is the time _____ your watch? Choose the correct option.
   a) on   b) by   c) in   d) at

6. " A suspicious man would believe his eyes instead of his heart" – Whose words are these?
   a) Mrs. Dorling's   b) Khosrove's   c) John Byro's   d) Ranga's

7. The art of writing or solving codes is _____.
   a) Polygraph   b) Anemograph   c) Autograph   d) Cryptograph

8. Out of the following pair, which does not have identical dimensions?
   a) Angular momentum and Planck's constant   b) Work and Torque
   c) Impulse and momentum   d) Moment of inertia and moment of force

9. Speeds of two identical cars are u and 4u at a specific instant. The ratio of the respective distances at which the two cars are stopped from that instant is
   a) 1:1   b) 1:4   c) 1:8   d) 1:16

10. A block of mass M is pulled along a horizontal frictionless surface by a rope of mass m. If a force P is applied at the free end of the rope, the force exerted by the rope on the block is
    a) $\frac{Pm}{M+m}$ b) $\frac{Pm}{M-m}$ c) P   d) $\frac{PM}{M+m}$

11. The block of mass M moving on the frictionless horizontal surface collides with the spring of spring constant k and compresses it by length L. The maximum momentum of the block after collision is

    a) $\frac{ML^2}{k}$ b) $\frac{kL^2}{2M}$ c) $\sqrt{Mk}\, L$ d) Zero

12. If the earth is treated as a sphere of radius R and mass M having period of rotation T, then its angular momentum about its axis of rotation is

a) $\frac{4\pi MR^2}{5T}$ b) $\frac{2\pi MR^2}{5T}$ c)d) $\frac{MR^2T}{2\pi}$ $\frac{MR^2T}{4\pi}$

13. A bullet is dropped from tne same height, when another bullet is fired horizontally. They will hit the ground:

a) depends upon mass of bullet   b) depends upon the observer
c) one after another   d) simultaneously

14. The acceleration due to gravity on the planet A is 9 times the acceleration due to gravity on planet B. A man jumps to a height of 2m on the surface of A. What is the height of jump by the same person on the planet B?

a) 6m   b) 18m   c) $2/3$ m   d) $2/9$ m

15. The element with highest ionization potential among the following is

a) Oxygen   b) Nitrogen   c) Carbon   d) Boron

16. The set of quantum numbers for the outermost electron for copper in its ground state is

a) $4,1,1,+1/2$ b) $3,2,2,+1/2$ c) $4,0,0,+1/2$ d) $4,2,2,+1/2$

17. If 27g of water is formed during complete combustion of pure propene (C_3H_6), the mass of propene burnt is

a) 42g   b) 21g   c) 14g   d) 56g

18. Using M.O. theory predict which of the following species has the shortest bond length?

a) O_2^{2+} b) O_2^+ c) O_2^- d) O_2^{2-}

19. The solubility product of a salt having the general formula MX_2 in water is 4×10^{-12} The concentration of M^{2+} ions in the aqueous solution of the salt is

a) 2×10^{-6} M   b) 1×10^{-4} M   c) 1.6×10^{-4} M   d) 4×10^{-10} M

20. According to Bohr's theory the angular momentum for an electron of 5th orbit is

a) $\frac{5h}{\pi}$ b) $\frac{2.5h}{\pi}$ c) $\frac{5\pi}{h}$ d) $\frac{25h}{\pi}$

21. Which one of the following gases has the highest critical temperature?

a) Nitrogen   b) Ammonia   c) Water vapour   d) Carbondioxide

22. 'Digital Gold' scheme was launched in India by which company?

a) IBM   b) Paytm   c) INFOSYS   d) DELL

23. Who made a historic speech on 'Kashmir issue' in the UN General Assembly in January 1957?

a) Vijayalakshmi Pandit   b) V.K. Krishna Menon   c) Annie Basant

d) Sardar Vallbhai Patel

24. Recently, The Central Government has announced a new coin with which of the denomination, 12 edged polygon shape?

a) 20   b) 10   c) 5   d) 1

25. Indian Railways will mark Mahatma Gandhi's 150th birth anniversary as

    a) Non- violence day   b) Community day   c) Pravasi Bharatiya Divas

    d) Youth Day

26. Who among the following scientists got two Nobel Prizes of which one was in peace?

    a) Albert Einstein   b) H.G. Khorana   c) Linus Pauling

    d) Paul Berg

27. You have 59 cubic blocks. What is the minimum number that needs to be taken away in order to construct a solid cube with none left over.

    a) 6   b) 15   c) 30   d) 32

28. The ages of Hari and Harry are in the ratio of 5:7. Four years from now the ration of their ages will be 3:4. Find their present ages?

    a) 20:28   b) 10:14   c) 20:24   d) 15:17

29. At a Reunion party six girls are sitting on a row. B is to the left of C. D and E are not at any end. D is third from the right end and immediate right of C. A is to the left of B. E is between D and F. Who is sitting at the extreme left end?

    a) B   b) C   c) A   d) E

30. Mary had several cookies. After eating one she gave half the remainder to her sister. After eating another cookie, she gave half of what was left to her brother. Mary now had only 5 cookies left. How many cookies did she start with?

    a) 11   b) 22   c) 45   d) 23

31. Find the missing number from the given expression

    a) 1   b) 9   c) 12   d) 17

32. Which of these problems is most severe?

    a) Your professor is sick and misses class on the morning, you are supposed to take a big exam.

    b) You lose track of your schedule and target to study for the big exam.

    c) You can't find one of the books you need to study for a big exam.

    d) The big exam is harder than you thought it would be and includes a section you did not study.

33. You read a story in the newspaper about salary negotiations with public transportation workers. The workers are threatening to go to strike tomorrow of their demands for higher wages and better benefits are not met. What can you infer from the news story?

   a) Health Insurance premiums are very expensive.

   b) The cost of gas will make ticket prices increase in the next few weeks.

   c) People who ride the bus should look for possible alternative transportation.

   d) Employees never like to meet salary demands.

34. Many business offices are located in buildings having 2-8 floors. If a building has more than 3 floors, it has a lift. If the above statements are true, Which of the following must be true?

   a) 2nd floor do not have lifts   b) 7th floor have lifts

   c) Only floor above the 3rd floor have liftsd) All floor may be reached by lifts

35. Some men are definitely intelligent, others are definitely not intelligent, but of intermediate men, we should say, "intelligent"? "Yes, I, think so or no, I shouldn't be inclined to call him intelligent". Which of the following reflects the intention of the writer well?

   a) To call men intelligent who are not strikingly so must be to use the concept with undue imprecision.

   b) Every empirical concept has a degree of vagueness

   c) Calling someone intelligent or not depends upon one's whim

   d) There is no need to be as indecisive as the writer of the above.

36. Which statement represent a judgment instead of a fact?

   a) My presentation was excellent. I am sure my boss will promote me now.

   b) My presentation was excellent. The clients all told me they liked it.

   c) My presentation was excellent. It won an award from management.

   d) My presentation was excellent. It was cited as such on my peer evaluation.

Maths

1. Two finite sets have m and n elements. The number of subsets of the first set is 112 more than that of the second set. The value of m, n are respectively

   a) 4,7   b) 7,4   c) 4,4   d) 7,7

2. Domain of the function

   $f(x) = \frac{1}{\sqrt{2x-3}}$ is

   a) $R - \{\frac{3}{2}\}$ b) $(\frac{3}{2}, \infty)$ c) $[\frac{3}{2}, \infty)$ d) None of these

3. Which of the following is correct?

   a) $\cos 1^0 > \cos 2^0$ b) $\cos 1^0 < \cos 2^0$ c) $\cos 1^0 = \cos 2^0$ d) None of these

4. Number of diagonals of a convex hexagon is

   a) $6C_2$ b) $6C_2 - 6$ c) $6C_2 + 6$ d) None of these

5. If $1+2+3+\ldots+n = 45$, then $1^3+2^3+3^3+\ldots+n^3$ is
a) $(45)^2$ b) $(45)^3$ c) $(45)^2+45$ d) None of these

6. The distance between the lines $4x+3y=11$ and $8x+6y=15$ is
a) $\frac{7}{2}$ b) 4   c) $\frac{7}{10}$ d) $\frac{7}{50}$

7. The value of $nc_0 - nc_1 + nc_2 - \ldots + (-1)^n nc_n$ is
a) 1   b) n   c) 2^n d) 0

Biology

1. A piece of wood having no vessels must belong to
a) Teak   b) Mango   c) Pine   d) Palm

2. Contagium Vivum fluidum was proposed by
a) D.J. Ivanowsky   b) M.W. Beijerinek   c) Stanley   d) Robert Hook

3. Cork cambium is also called
a) Phellogen   b) Phellem   c) Phelloderm   d) all of these

4. Scientific name of electric ray is
a) Trygon   b) Torpedo   c) Triton   d) Teredo

5. After a deep inspiration and maximum expiration, the capacity of lung is called
a) Vital Capacity   b) Tidal Volume   c) Inspiratory Reserve Volume
d) Expiratory Reserve Volume

6. Porphyra belongs to
a) Green algae   b) Brown algae   c) Blue-green algae   d) Red algae

7. Phyllode is found in
a) Cassia fistula   b) Asparagus   c) Opuntia   d) Australian acacia

Computer Science

1. Python programs are saved using _____ extension.
a) .py   b) .pyw   c) both   d) none

2. What is the order of precedence in python?
(i) Parenthesis (ii) Exponential (iii) Multiplication and Division (iv) Addition and Subtraction
a) i, ii, iii, iv   b) ii, i, iii, iv   c) ii,i, iv, iii   d) i, ii, iv, iii

3. What will be the output of the following code
```
for i in range(0) :
print (i)
```
a) 0   b) no output   c) Error   d) None

4. What error occurs when you execute apple=mango?
a) Syntax Error   b) Value Error   c) Name Error   d) Type Error

5. What is the output of the following?
```
d= {0: 'a', 1: 'b', 2: 'c'}
for x in d.keyes ():
print (d[x])
```
a) 0 1 2   b) a b c   c) 0a 1b 2c   d) None

6. List i
a) h

7. Wha
L=[l
a) l

Informat

1. Th
a)
b'
c

2.

3.
if (5 +
else:
print

4.

5.

6. List is a _____ data type.
    a) homogeneous b) string c) integer d) sequence
7. What datatype is the object below?
    L=[1, 23, 'hello', 1]
    a) List b) Dictionary c) Array d) Tuple

Informatics Practice

1. The similarity between break and continue statement is
    a) both statements terminate the entire loop execution.
    b) both statements terminates single pass of the loop.
    c) both statements are jump statements.
    d) both statements are evaluated at the entry point of the loop.

2. DDL stands for
    a) Data Definition Language.   b) Data Definite Language.
    c) Data Defining Language.   d) Data Discrete Language.

3. What does the following code prints?

```
if (5 + 3 == 9):
     print("TRUE")
else:
     print("FALSE")
print("TRUE")
```

    a) TRUE   b)FALSE   c)TRUE   d) FALSE
       TRUE   FALSE   FALSE   TRUE

4. Python does not allow you to call a function before the function is
    a) invoked   b) called   c) executed   d) declared

5. What will be displayed by the following code?

```
x = 1
def f1():
     y = x + 2
     print(y)
f1()
print(x)
```

    a) 1,3   b)3,1 c)The program has a runtime error because x is not defined.
    d)1,1

6. Suppose list1 is [2, 4, 8, 10, 12]. What will be the output of list1[-1] ?
    a) 10   b)2   c)12   d)None

7. What is the output when following code is executed?
    >>>student = ['Tina', 'Aston', 'Charlie', 'George']
    >>>print student [-1][-1]
    a) Tina   b) George   c) Error   d) e

7

Tie breaker

1. When State Bank of India came into existence?
   a. 2nd September 1947   b) 1st July 1955   c) 1st December 1919

   d) 31st March 1955

2. Which number is the odd one out?

   159, 248, 963, 852

   a)   159, b) 248, c) 963, d) 852

3. In which Indian state was the longest electrified rail tunnel recently inaugurated?

   a) U.P. b) Karnataka   c) Rajasthan   d) Andhra Pradesh

4. Which is NOT an example of persuasion technique?

   a) "If you care about the environment, and who doesn't, give generously to our save the Mongoose fund today!"

   b) "I've been eating wheat – 0's cereal since I was kid," says super athlete Hark Gayerman. "They give me energy to win.......... and they'll do the same for you"

   c) Soft – sole sneaker for toddlers are available at Hurphy's Discount Store.

   d) "Send me to Washington as your senator if you want things done. I'll stop all the government waste!"

5. Who was the first woman Lok Sabha Speaker?

   a) Sucheta Kripalini   b) Sarojini Naidu c) Meera Kumar
   d) Sumitra Mahajan

Rough Work