



# Vivekananda World School

## Bright Future Scholarship Program

Academic Session (2023-24)

Grade-11 Science

### General Instructions:

- There are 5 Sections
- Section –A Contains 15 questions in English, Section – B 10 questions in Physics , Section –C 10 questions in Chemistry, Section –D 15 questions in Biology and Mathematics
- There is a choice between the questions of Biology and Mathematics
- Rest all questions are Compulsory
- There will be no negative marking

### Section – A (English)

**1 Q :** Select the correct active form of the given sentence.

Every passing vehicle was being thoroughly checked by the guards.

- (A) The guards have thoroughly checked every passing vehicle.
- (B) Every passing vehicle were thoroughly checking the guards.
- (C) The guards were thoroughly checking every passing vehicle.
- (D) The guards have been thoroughly checking every passing vehicle.

**2 Q :** Select the word which match same as the group of words given.

A student who idly or without excuse absents himself/herself from school

- (A) vagrant
- (B) truant
- (C) itinerant
- (D) migrant

**3 Q :** In the sentence identify the segment which contains the grammatical error.

We had to decline several orders in case that the production was held up due to labour strike.

- (A) the production was held up
- (B) due to labour strike
- (C) We had to decline
- (D) in case that

**4 Q :** Given below are four jumbled sentences. Select the option that gives their correct order.

A. The cafe's owner says he's interested in conservation, and hopes customers will realize the animals are worth saving, even though they often have a bad reputation.

B. None of them are venomous, meaning customers can get up close and personal with the reptiles.

C. Here you sip your drink in the company of 35 snakes.

D. This cafe, which has just opened in Tokyo, is not for the faint-hearted.

- (A) DCBA
- (B) ABDC
- (C) DBCA
- (D) ABCD

**5 Q :** Read the following passage carefully and give the answer of the questions.

When you buy a car, examine carefully the important features of the model you are considering. Many a buyer of the latest model has got into trouble by buying a car too broad or too long for his garage. Further more, a long car is too hard to manage in traffic and too difficult to park. Another feature is the comfort afforded. Are the seats nice and durably upholstered? Is there enough glass to give the driver a god view in all directions, particularly to the rear? It should be remembered that the heavier and the powerful car is, the more expensive it will be to operate. High powered motors, require expensive high-octane petrol. The greater weight means greater tyre wear and enlarged brakes. The old cliché is still true, it is not the initial cost but the upkeep which matters.

It is very expensive to maintain a large because it

- (A) is heavy
- (B) requires more space for parking
- (C) needs changing its tyres more frequently
- (D) needs more durable upholstery

**6 Q :** Answer of the question below on the basis of Passage:

The size of the car should be in accordance with

- (A) the money one can afford to pay
- (B) the size of the garage the buyer has
- (C) the width of the road where the buyer lives.
- (D) the volume of traffic on road

**7 Q :** Answer of the question below on the basis of Passage:.

According to this passage, the two factors that the buyer of a new car should keep in mind are

- (A) its price and size
- (B) its model and upholstery
- (C) its size and the comfort it offers
- (D) its upholstery and glass area

**8 Q :** Answer of the question below on the basis of Passage:  
While buying a car, one should specially consider its

- (A) price
- (B) maintenance cost
- (C) upholstery
- (D) brakes

**9 Q :** Direction : Rearrange the following five sentence (A) , (B), (C), (D) and (E) in the proper sequence to form a paragraph; then answer the question given below them.

- (A) A small wooden nest box is all it has taken to rekindle all the romance of bringing sparrows and other birds back into our cities and halt them from fading into the past like a forgotten folktale.
- (B) There is something wrong with a city that remains unperturbed even as its birds desert it.
- (C) Thankfully, the situation is not as hopeless as it seems.
- (D) Much as we try to defend the seemingly irreversible modern life of these cities, we can't stop our hearts from crying when we realize that our rapidly degenerating urban eco-system isn't generous enough to let these delicate winged creatures build tiny little nests in its nooks and crannies, sit in solitude, and rear offspring.
- (E) And this desertion seems to be true with most metros in India where house sparrows have almost become a thing of the past.

Which of the following should be the SECOND sentence after rearrangement?

- (A) E
- (B) D
- (C) C
- (D) B

**10 Q :** Direction: Question below has two blanks, each blank indicating that something has been omitted. Choose set of words for each blank which best fits the meaning of the sentence as a whole.

A new law has been passed stating that no actor would be allowed to shoot beyond twelve hours in a day and those who \_\_\_\_\_ this norm would hence-forth be \_\_\_\_\_ for it.

- (A) followed, punished
- (B) accompanied, reprimanded
- (C) flouted, penalized
- (D) defied, applauded

**11 Q :** When Juan was two, he .....already speak very well.

- (A) Might
- (B) Could
- (C) Can
- (D) Should

**12 :** This dress suits her style. She .....definitely like it.

- (A) Can
- (B) Could
- (C) Will
- (D) May

Read the following poem and give answers to the given questions.

The way a crow  
Shook down on me  
The dust of snow  
From a hemlock tree  
Has given my heart  
A change of mood  
And saved some part  
Of a day I had rued.

**13 Q:** What does the poet call it "Dust of snow"?

- (A) snow particles were too fine
- (B) they came over him like dust
- (C) they felt like dust
- (D) they looked like dust

**14 Q:** What uplifted his mood?

- (A) falling of snow on his shoulder
- (B) the crow
- (C) hemlock tree
- (D) all of the above

**15 Q:** Name the poetic device used in the line "Has given my heart".

- (A) alliteration
- (B) metaphor
- (C) oxymoron
- (D) simile

#### Section - B (Physics)

**16 Q:** The least resistance obtained by using 2  $\Omega$ , 4  $\Omega$ , 1  $\Omega$  and 100  $\Omega$  is

- (A) < 100  $\Omega$

- (B)  $< 4 \Omega$
- (C)  $< 1 \Omega$
- (D)  $> 2 \Omega$

17 Q: If an object is placed symmetrically between two plane mirrors, inclined at an angle of 72 degrees, then the total no. of images formed is:

- (A) 5
- (B) 4
- (C) 2
- (D) infinite

18 Q: The law of gravitation describes the gravitational force between

- (A) any two bodies having mass
- (B) earth and point mass only
- (C) earth and Sun only
- (D) two charged bodies only

19 Q: Friction can be reduced by using

- (A) Oil
- (B) Grease
- (C) Powder
- (D) All of these

20 Q: The image shows the path of incident rays to a concave mirror.

Where would the reflected rays meet for the image formation to take place?

- (A) Behind the mirror
- (B) Between F and O
- (C) Between C and F
- (D) Beyond C

21 Q: What is the value of the acceleration due to gravity on the surface of the Earth?

- (A)  $9.8 \text{ m/s}^2$
- (B)  $18.8 \text{ m/s}^2$
- (C)  $4 \text{ m/s}^2$
- (D)  $12 \text{ m/s}^2$

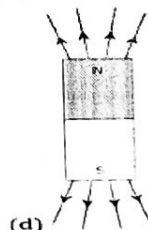
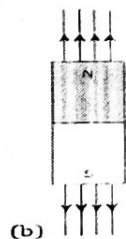
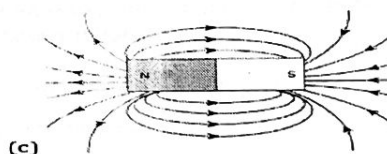
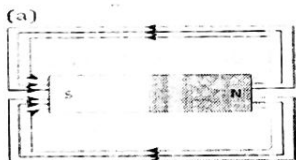
22Q: Two devices are connected between two points, say A and B, in parallel. The physical quantity that will remain the same between the two points is

- (A) Current
- (B) Voltage
- (C) Resistance
- (D) None of these

23 Q: Which of the following is responsible for the depletion of the ozone layer

- (A) CFCs
- (B) Oxygen
- (C)  $\text{SO}_2$
- (D)  $\text{CO}_2$

24 Q: student learns that magnetic field strength around a bar magnet is different at every point. Which diagram shows the correct magnetic field lines around a bar magnet?



25Q: Image formed by a convex spherical mirror is:

- (A) virtual
- (B) real
- (C) enlarged
- (D) inverted

#### Section -C (Chemistry)

26: The image shows some chemical reactions.



Which option identifies the reactants and products of the reactions?

(a)

| Reactants     | Products                                |
|---------------|---|
| H, Cl and HCl | 2H, O <sub>2</sub> and H <sub>2</sub> O |

(b)

| Reactants                 | Products                     |
|---------------------------|------------------------------|
| HCl and 2H <sub>2</sub> O | H, Cl, 2H and O <sub>2</sub> |

(c)

| Reactants                    | Products                  |
|------------------------------|---------------------------|
| H, Cl, 2H and O <sub>2</sub> | HCl and 2H <sub>2</sub> O |

(d)

| Reactants                               | Products      |
|---|---------------|
| 2H, O <sub>2</sub> and H <sub>2</sub> O | H, Cl and HCl |

27 Q: In what way iodine can be separated from a mixture of potassium chloride and iodine?

- (A) Filtration
- (B) Sedimentation
- (C) Distillation
- (D) Sublimation

28 Q: Rate of diffusion of a gas is \_\_\_\_\_

- (A) directly proportional to its density
- (B) directly proportional to its molecular mass
- (C) directly proportional to the square of its molecular mass
- (D) inversely proportional to the square root of its molecular mass

29 Q: The kinetic theory of gases predicts that total kinetic energy of gas depends on \_\_\_\_\_

- (A) pressure of the gas
- (B) temperature of the gas
- (C) volume of the gas
- (D) pressure, temperature and volume of the gas

30 Q: Which of the following is a strong acid?

- (A) HCl pH 1
- (B) CH<sub>3</sub>COOH pH 5
- (C) Lemon juice pH 2.2
- (D) Pure Milk pH 6

31 Q: Which of the following will give a pleasant smell of ester when heated with ethanol and a small quantity of sulphuric acid?

- (A) CH<sub>3</sub>COOH
- (B) C<sub>2</sub>H<sub>5</sub>CH<sub>2</sub>OH
- (C) CH<sub>3</sub>OH
- (D) CH<sub>3</sub>CHO

32 Q: What is the value of Avogadro's number?

- (A)  $6.02 \times 10^{23}$
- (B)  $6.02 \times 10^{22}$
- (C)  $6.02 \times 10^{22}$

(D)  $6.02 \times 10^{22}$

**33Q:** A student wrote a chemical equation of the reaction between carbon monoxide and hydrogen as,  $\text{CO}_2 + 2\text{H}_2 \rightarrow \text{CH}_3\text{OH}$ .

How can the reaction be classified?

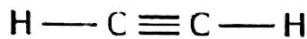
- (A) The reaction is an example of a combination reaction as a compound separates into two compounds.
- (B) The reaction is an example of a decomposition reaction as a compound dissociates into two compounds.
- (C) The reaction is an example of a combination reaction as two compounds react to form a single compound.
- (D) The reaction is an example of a decomposition reaction as two compounds react to form a single compound.

**34 Q:** Which of the following can undergo a chemical reaction?

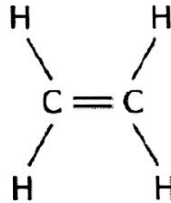
- (A)  $\text{MgSO}_4 + \text{Fe}$
- (B)  $\text{ZnSO}_4 + \text{Fe}$
- (C)  $\text{MgSO}_4 + \text{Pb}$
- (D)  $\text{CuSO}_4 + \text{Fe}$

**35 Q:** The image represents the structure of a few hydrocarbon compounds.

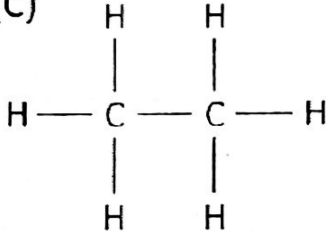
(A)



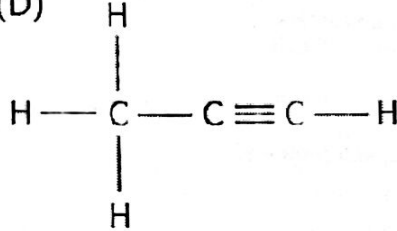
(B)



(C)



(D)



Which of these compounds can be classified as alkynes?

- (A) Only (A)
- (B) Only (B)
- (C) Both (A) and (D)
- (D) Both (B) and (C)

#### Section-D (Biology)

**36Q:** The process by which water moves through a semi-permeable membrane from a region of high concentration to a region of lower concentration, thereby equalizing water concentration is called:

- (A) Evaporation
- (B) Diffusion
- (C) Osmosis
- (D) All of the above

**37Q:** What is the exclusive marine phylum?

- (A) Echinodermata
- (B) Porifera
- (C) Cnidarians
- (D) Protozoa

**38Q:** The contraction and expansion movement of the walls of the food pipe is called:

- (A) Translocation
- (B) Transpiration
- (C) Peristaltic movement
- (D) Digestion

**39Q:** In peas, a pure tall (TT) is crossed with a pure short plant(tt). The ratio of pure tall plants to pure short plants in the F<sub>2</sub> generation is:

- (A) 1:3
- (B) 3:1
- (C) 1:1
- (D) 2:1

**40Q:** A person gets out in the sunlight from a dark room. How does his pupil regulate and control the light entering the eye?

(D)  $21\sqrt{11}$  cm<sup>2</sup>

**49Q:** If  $x$  and  $y$  are inversely proportional, then:

(A)  $x+y=\text{constant}$

(B)  $x-y=\text{constant}$

(C)  $xy=\text{constant}$

(D)  $x/y=\text{constant}$

**50Q:** A ratio equivalent to the ratio 23 : 57 is

(A) 4 : 6

(B) 5 : 7

(C) 15 : 14

(D) 14 : 15