

LOURDES CENTRAL SCHOOL, BEJAI, MANGALURU

CLASS: XI

MODEL PAPER (ENGLISH CORE -301)

Time:3hrs

DATE: 2.09.2022

Marks: 80

General Instructions:

- (i) This paper is divided into three Sections: A, B and C. All the sections are compulsory.
 - (ii) Read the instructions carefully.
 - (iii) Do not exceed the prescribed word limit while answering the questions.
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SECTION – A (Reading) 28 Mark

1. Read the following passage carefully. (10 Marks)

1. Too many parents these days can't say no. As a result, they find themselves raising 'children' who respond greedily to the advertisements aimed right at them. Even getting what they want doesn't satisfy some kids; they only want more. Now, a growing number of psychologists, educators and parents think it's time to stop the madness and start teaching kids about what's really important: values like hard work, contentment, honesty and compassion. The struggle to set limits has never been tougher—and the stakes have never been higher. One recent study of adults who were overindulged as children, paints a discouraging picture of their future: when given too much too soon, they grow up to be adults who have difficulty coping with life's disappointments. They also have distorted sense of entitlement that gets in the way of success in the work place and in relationships.
2. Psychologists say that parents who overindulge their kids, set them up to be more vulnerable to future anxiety and depression. Today's parents themselves raised on values of thrift and self-sacrifice, grew up in a culture where 'no' was a household word. Today's kids want much more, partly because there is so much more to want. The oldest members of this generation were born in the late 1980s, just as PCs and video games were making their assault' on the family room. They think of MP3 players and flat screen TV as essential utilities, and they have developed strategies to get them. One survey of teenagers found that when they crave for something new, most expect to ask nine times before their parents give in. By every measure, parents are shelling out record amounts. In the heat of this buying blitz, even parents who desperately need to say no find themselves reaching for their credit cards.
3. Today's parents aren't equipped to deal with the problem. Many of them, raised in the 1960s and 70s, swore they'd act differently from their parents and have closer relationships with their own children. Many even wear the same designer clothes as their kids and listen to the same music. And they work more hours; at the end of a long week, it's tempting to buy peace with 'yes' and not mar precious family time with conflict. Anxiety about the future is another factor. How do well intentioned parents say no to all the sports gear and arts and language lessons they believe will help their kids thrive in an increasingly competitive world? Experts agree: too much love won't spoil a child. Too few limits will.
4. What parents need to find, is a balance between the advantages of an affluent society and the critical life lessons that come from waiting, saving and working

hard to achieve goals. That search for balance has to start early. Children need limits on their behaviour because they feel better and more secure when they live within a secured structure. Older children learn self-control by watching how others, especially parents act.

5. Learning how to overcome challenges is essential to becoming a successful adult. Few parents ask kids to do chores. They think their kids are already overburdened by social and academic pressures. Every individual can be of service to others, and life has meaning beyond one's own immediate happiness. That means parents eager to teach values have to take a long, hard look at their own.

A. Choose the most appropriate option: (1 x 4 = 4 marks)

(a) What do the psychologists, educators and parents want to teach the children?

1. To teach them about treachery.
2. To teach them about indiscipline.
3. To teach them about the values of life like hard work, contentment, honesty and compassion.
4. None of these

(b) What is essential to become a successful adult?

1. Learn not to overcome challenges
2. Learn how to overcome challenges
3. Nothing is essential.
4. None of these

(c) Why do children need limits on their behaviour when they live within a secured structure?

1. They feel more secure and better.
2. They feel insecure.
3. They feel bored.
4. None of these.

(d) What is the drawback of giving children too much too soon?

1. They fail to cope with life's disappointments when they grow up.
2. They do not study seriously.
3. They become quarrelsome when they grow up.
4. None of these.

B. Answer the following questions briefly: 1 x 5 = 5

(a) What values do parents and teachers want children to learn?

(b) What are the results of giving the children too much too soon?

(c) Why do today's children want more?

(d) What is the balance which the parents need to have in today's world?

(e) What is the necessity to set limits for children?

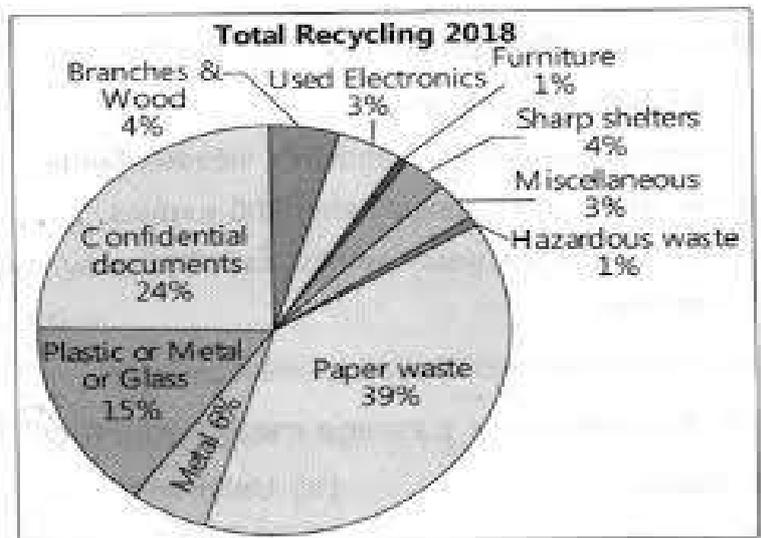
C. Find words in the passage similar in meaning as: 1 x 1 = 1

(a) a feeling of satisfaction (para 1)

2. Read the passage and answer the questions given below:

Conference series LLC Ltd organizes a conference series of 1000+ global events inclusive of 300+ conferences, 900+ upcoming and previous symposiums and workshops in USA, Europe and Asia with support from 1000 more Scientific societies and publishes 700+ open access journals which contain over 30000 eminent personalities, reputed scientists as Editorial board members. Recycling and Waste Management Convention 2018 proudly invites contributors across the globe to 9th World Convention on Recycling and Waste Management during October 22-23,2018 in Osaka, Japan, which includes prompt keynote presentations, oral talks, poster presentations and exhibitions. We are delighted to say that it is the 9th World Convention on Recycling and Waste Management which will be held in a beautiful city of Osaka, Japan and hence we invite you all to attend and register.

9th World Convention on Recycling and Waste Management is mainly based on the theme “Advocating Waste Disposal and Recycling Practices for Clean and Green Environment.” We warmly welcome all the participants— leading scientists, researchers and scholars of the world to attend the convention. We provide a platform for young researchers and students to present their research through oral presentations through which they can develop a foundation for collaboration among young researchers. The organising committee aims at setting a platform for all the budding scientists and researchers to present their real-time work and share their views and aspects related to the theme of the conference. The organising committee is gearing up for an exciting and informative conference programme including plenary lecture, symposia, workshops on a variety of topics, poster presentations and various programmes for participants from all over the world.



On the basis of the passage, answer ALL TEN questions

(a) What theme is being highlighted after reading the given passage?

- (i) Efficient means of reducing garbage
- (ii) Efficient ways of waste disposal
- (iii) Various techniques to be employed to recycle the goods
- (iv) Both (ii) and (iii)

(b) Which notion in the conference has been emphasised to be deployed?

- (i) Waste management
- (ii) Recycling of goods
- (iii) Waste disposal management
- (iv) Reshaping Earth's future

(c) On observing the pie-chart, which two types of waste have been recycled at the rate of 4%?

- (i) Furniture and used electronics
- (ii) Branches and wood and sharp shelters
- (iii) Furniture and hazardous waste
- (iv) All of the above

(d) On observing the chart, which type of waste is generated the most?

- (i) Confidential documents
- (ii) Paper waste
- (iii) Miscellaneous
- (iv) Plastic or metal or glass

(e) Which of the following activities contribute collectively towards paper waste recycled percentage?

- (i) Plastic or metal or glass and metal
- (ii) Confidential documents and plastic or metal or glass
- (iii) Miscellaneous recycled waste and confidential documents
- (iv) None of the above

(f) What does the given data represent?

- (i) The types of waste that haven't been generated
- (ii) The amount and degree of recycled waste
- (iii) The increasing trend of recycling and waste management
- (iv) Both (ii) and (iii)

(g) What has been considered as an efficient means to reduce landfill area?

- (i) Sorting of waste
- (ii) Recycling or composting waste
- (iii) Both (i) and (ii)
- (iv) None of the above

(h) What are the main reasons of waste management and recycling it?

- (i) To not over-exploit the resources
- (ii) Reducing the dump of landfill area
- (iii) Leaving behind the quality of environment free from pollution
- (iv) All of the above

(i) Which other type of waste is recycled at the same rate as that of used electronics?

- (i) Miscellaneous goods
- (ii) Hazardous waste and sharp shelters
- (iii) Branches and wood
- (iv) None of the above

(j) Which convention session was conducted on recycling at waste management in 2018?

- (i) 9th Convention
- (ii) 8th Convention
- (iii) 18th Convention
- (iv) 29th Convention

3. Read the following passage and answer the questions that follow: 8 marks

1. How often do we exclaim: "That was a mistake!" That bewildered expression of regret and panic gets replayed through life. Some mistakes we forget, others we don't. The mistakes can be as mundane as forgetting to turn the geyser off or to pick up your passport from the airport counter.
2. Absent mindedness, preoccupation, distraction, carelessness, nervousness, there are umpteen excuses to justify mistakes. However major decisions like relocations of home or an unwarranted resignation letter can cause much trouble and upheaval and lead to regrets that leave you sad and depressed. Some mistakes are irreversible - then is there room for hope?
3. In fact, there are no mistakes, only experiences. There are no problems, only challenges. Every experience teaches us something in life. Every mistake inspires retrospection and introspection. The experience is humbling and it makes us wiser. That is, every mistake is regarded as an experience and not as a source of self-pity or self-condemnation. Many times, people are unable to reconcile with the change grooved in the blame culture and rooted in the past, they have to realise the life time benefits they receive from changes.
4. Nature abounds in examples of flexibility and relocation in the case of birds and beasts. Scientific research in the behaviour of birds has confirmed this. Birds, animals and even nomads, travel miles and miles in search of better food, congenial climate and safety. These relocations may cause some amount of stress, no doubt, but they are the source of survival: helping to group bonding and cooperation; and to explore the beauty of new space and better environment.
5. "To the weak, problems are stumbling blocks, to the brave, they are stepping stones. "An untimely resignation and or termination letter is certainly traumatic and disturbing. But think of possibilities it can throw open for you. A young man felt disappointed when he failed an interview for a corporate job. At that point of time, he left dejected. Today, looking back he says, "It was a blessing in disguise. I would have never reached this far." Some mistakes bring in a very important message. "Believe and achieve! And in order to do so, faith is essential. It is the triple faith that men need today - faith in oneself, faith in the world around us, and above all faith in God!"

(A) On the basis of your reading of the above passage, make notes using headings and subheading. Also use recognizable abbreviations, wherever necessary (Minimum 4). Supply a suitable title. (5)

(b) Write a summary of the passage in about 80-100 words (3)

SECTION B – ADVANCE WRITING SKILLS (20 Marks)

4. You have **lost a library book issued in your name**. Write an appropriate description of the book and give the particulars of the bus you travelled by the day you lost it. Your written account should be suitable for “Lost and Found Column” of a local daily. (3)

5. As an educated citizen you are pained to see the physical health of youngsters deteriorating because of an unhealthy lifestyle. Draft a poster reflecting your concern. (50 words) (3)

6. Write a speech in 150-200 words on the topic, ‘Library plays an important role at school’. It is to be delivered in the morning assembly. You are Karuna/Karan, Head Girl/Head Boy. (6marks)

7. **Fill in the blanks by choosing the words from the given options. 1x4=4)**

The brain uses energy (a) exercise willpower. When the blood sugar drops, your brain (b) unable to concentrate, so a small nibble(c) nudge the brain back into self-control mode. Everyone should (d) careful about it.

(a) (i) at (ii) in (iii) to (iv) with

(b) (i) was (ii) is (iii) are (iv) were

(c) (i) could (ii) can't (iii) would (iv) can

(d) (i) be (ii) been (iii) have been (iv) being

8. **Rearrange the following words or phrases to make meaningful sentences. 1x4=4**

(a) that / used / he said / in his childhood / to be celebrated / his birthday / differently

(b) distribute sweets / instead of / they / cutting a cake / used to

(c) blow out / but / used to / they / we / candles / light a lamp

(d) weighed / against grain / him / parents / my grandfather's

SECTION – C TEXT BOOKS {FLAMINGO AND VISTAS} (32 Marks)

9. **Read the extract given below and answer the questions that follow: 1x4=4**

i. The Laburnum top is silent, quite still

In the afternoon yellow September sunlight,

A few leaves yellowing, all its seeds fallen.

1. What does ‘Laburnum top’ mean here?

(a) It means the top part of any tree

(b) It means the top part of the Laburnum tree

c) Why did Mrs. Dorling have to give everything to Mrs. Dorling ?

- 1) For they could leave country anytime
- 2) For they could be arrested by local police
- 3) For they could be given new things in place of old ones
- 4) For they were dealing in drugs

10. Answer any Two of the following questions in 40-50 words each: $2 \times 3 = 6$

- (i) Mention the treasures buried with Tut's body.
- (ii) Draw a comparison between the author's village school education and city school education.
- iii. How can you say Suzanne's injuries were serious?

11. Answer any One of the following questions in 40-50 words each: $1 \times 3 = 3$

- (i) Why was Aram delighted and frightened to see Mourad on a beautiful white horse?
- (ii) Sometimes it is better to forget old memories as they are not always pleasant. Give your views in reference to the chapter 'The Address'.

12. Answer the following questions in about 150 words. (6 Marks)

What difference did you notice between the reaction of the adults and the children when faced with danger?

Or

What impression do you form of Mrs Annie Pearson? How does Mrs Fitzgerald bring about a change in her personality?

13. Answer the following questions in about 150 words. (6 Marks)

The author's grandmother was a religious person. What are the different ways in which we come to know this?

OR

Why did Tut's body have to undergo a C.T. scan? How was it carried out and what results did it yield?

LOURDER CENTRAL SCHOOL
MID TERMINAL EXAMINATION 2022-23 SAMPLE PAPER

Subject: Physics

Class XI

Max. Marks 70

SECTION A

This section consists of 21 multiple choice questions of one mark each.

1. An object experiences a force of $2i$ N and is displaced by $3i + 4j$. The work done by the force is:

- (a) 6 J
- (b) 0 J
- (c) 14 J
- (d) 8 J

2. The angular velocity of seconds' arm of a clock is:

- (a) $(\pi/2)$ rad/s
- (b) $(\pi/20)$ rad/s
- (c) $(\pi/30)$ rad/s
- (d) $(\pi/4)$ rad/s

3. Which of the following pairs has the same dimensions?

- (a) specific heat and latent heat
- (b) Impulse and momentum
- (c) surface tension and force
- (d) moment of Inertia and torque

4. The dimensions of kinetic energy is same as that of

- (a) force
- (b) pressure
- (c) work
- (d) momentum

5. In SI system the fundamental units are

- (a) meter, kilogram, second, ampere, Kelvin, mole and candela
- (b) meter, kilogram, second, coulomb, Kelvin, mole and candela
- (c) meter, Newton, second, ampere, Kelvin, mole and candela
- (d) meter, kilogram, second, ampere, Kelvin, mole and lux

6. If the velocity of a particle is doubled, its kinetic energy becomes

- (a) double
- (b) triple
- (c) four times
- (d) square root timer

7. A body starts from rest and travels with uniform acceleration on a straight line. If its velocity after making a displacement of 32 m is 8 m/s, its acceleration is

- (a) 1 m/s^2
- (b) 2 m/s^2
- (c) 3 m/s^2
- (d) 4 m/s^2

8. A body starts from rest and travels for t second with uniform acceleration of 2 m/s^2 . If the displacement made by it is 16 m, the time of travel t is

- (a) 4 s
- (b) 3 s
- (c) 6 s
- (d) 8 s

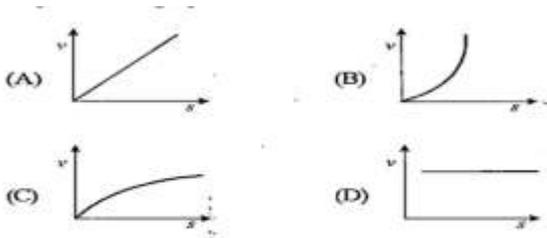
9. A body starts from rest and travels for five seconds to make a displacement of 25 m if it has travelled the distance with uniform acceleration a then a is

- (a) 3 m/s^2
- (b) 4 m/s^2
- (c) 2 m/s^2
- (d) 1 m/s^2

10. Let v and a denote the velocity and acceleration respectively of a body.

- (a) a can be nonzero when $v = 0$.
- (b) a must be zero when $v = 0$.
- (c) a must be zero when $v \text{ NOT} = 0$.
- (d) The direction of a must have some correlation with the direction of v .

11. An object is dropped from rest. Its velocity versus displacement graph is



12. Which of the following statements is not correct for an object moving along a straight path in an accelerated motion?

- (a) Its speed keeps changing
- (b) Its velocity always changes
- (c) It always goes away from the Earth
- (d) A force is always acting on it

13. According to the third law of motion, action and reaction

- (a) always act on the same body
- (b) always act on different bodies in opposite directions
- (c) have same magnitude and directions
- (d) act on either body at normal to each other

14. A goalkeeper in a game of football pulls his hands backwards after holding the ball shot at the goal.

This enables the goalkeeper to

- (a) exert larger force on the ball
- (b) reduce the force exerted by the balls on the hands
- (c) increase the rate of change of momentum
- (d) decrease the rate of change of momentum

15. The inertia of an object tends to cause the object

- (a) to increase its speed
- (b) to decrease its speed
- (c) to resist any change in its state of motion
- (d) to decelerate due to friction

16. A passenger in a moving train tosses a coin which falls behind him. It means that motion of the train is

- (a) accelerated
- (b) uniform
- (c) retarded
- (d) along circular tracks

17 An object of mass 2 kg is sliding with a constant velocity of 4 ms^{-1} on a frictionless horizontal table. The force required to keep the object moving with the same velocity is

- (a) 32 N
- (b) 0 N
- (c) 2 N
- (d) 8 N

18. The dimensional formula for acceleration is

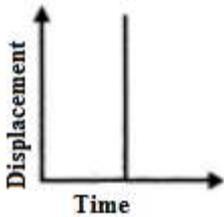
- (a) $[\text{LT}^2]$
- (b) $[\text{LT}^{-2}]$
- (c) $[\text{L}^2\text{T}]$
- (d) $[\text{L}^2\text{T}^2]$

19. Rocket works on the principle of conservation of

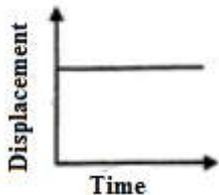
- (a) mass
- (b) energy
- (c) momentum
- (d) velocity

20. Which of the following is not possible for a body in uniform motion?

a



b



c Both (a) & (b)

d None of the above

21 Two parallel rail tracks run from North to South. On one track, train A is moving from South to North with a speed of 20 m/s. On the other track, train B is moving from North to South with a speed of 30 m/s. The relative velocity of A with respect to B is _____.

- a. 50 m/s in the direction - South to North
- b. 50 m/s in the direction - North to South
- c. 10 m/s in the direction - South to North
- d. 10 m/s in the direction - North to South

SECTION B

This section consists of 10 multiple choice case study based questions of 1 mark each.

Read the passage given below and answer :

In physics, we come across many examples of collisions. The molecules of a gas collide with one another and with the container. The collisions of a neutron with an atom is well known. In a nuclear reactor, fast neutrons produced in the fission of uranium atom have to be slowed down. They are, therefore, made to collide with hydrogen atom. The term collision does not necessarily mean that a particle or a body must actually strike another. In fact, two particles may not even touch each other and yet they are said to collide if one particle influences the motion of the other. When two bodies collide, each body exerts an equal and opposite force on the other. The fundamental conservation law of physics are used to determine the velocities of the bodies after the collision. Collision may be elastic or inelastic. Thus a collision may be defined as an event in which two or more bodies exert relatively strong forces on each other for a relatively short time. The

Q1: The principle of conservation of linear momentum can be strictly applied during a collision between two particles provided the time of impact is

- a. Moderately small
- b. Extremely large
- c. Extremely small
- d. Depends on a particular case

Q2: In an elastic collision of two particles the following is conserved

- a. Speed of each particle
- b. Kinetic energy of each particle
- c. Total kinetic energy of both the particles
- d. Momentum of each particle

Q3: A shell initially at rest explodes into two pieces of equal mass, then the two pieces will

- a. Move with different velocities in different directions
- b. Be at rest
- c. Move with the same velocity in the same direction
- d. Move with the same velocity in opposite directions

Q4: A lead ball strikes a wall and falls down, a tennis ball having the same mass and velocity strikes the wall and bounces back. Check the correct statement.

- a. The lead ball suffers a greater change in momentum compared with the tennis ball
- b. The tennis ball suffers a greater change in momentum as compared with the lead ball
- c. The momentum of the lead ball is greater than that of the tennis ball
- d. Both suffer an equal change in momentum

Q5: When two bodies collide elastically, then

- a. $e=1$
- b. $e=0$
- c. $e>1$
- d. $e<1$

forces that the bodies exert on each other are internal to the system. Almost all the knowledge about the sub-atomic particles such as electrons, protons, neutrons, muons, quarks, etc. is obtained from the experiments involving collisions. There are certain collisions called nuclear reactions in which new particles are formed. For example, when a slow neutron collides with a U_{235} nucleus, new nuclei barium-141 and Kr_{92} are formed. This collision is called nuclear fission. In nuclear fusion, two nuclei deuterium and tritium collide (or fuse) to form a helium nucleus with the emission of a neutron.

1. What is the net force of a kite that is held stationary in the sky?

- a. 1
- b. Increasing
- c. 0
- d. Decreasing

2. Which is the branch of physics that deals with the motion of a body by considering the cause?

- a. Statics
- b. Thermodynamics
- c. Dynamics
- d. Astronomy

3. What is the formula to find impulse?

- a. Impulse = Force/time
- b. Impulse = Force*time
- c. Impulse = Force+time
- d. Impulse = Force-time

4. Which is the type of inertia?

- a. Inertia of rest
- b. Inertia of motion
- c. Inertia of direction
- d. All the above options

5. When an external force is not applied to the system, its total momentum _____

- a. Becomes zero
- b. Remains constant
- c. Increases gradually
- d. Decreases gradually

SECTION C

This section consists of 4 objective questions of 1 mark each.

Name the following:

1. State of equilibrium where the body does not have a preferred face on which it comes to equilibrium
2. The path travelled by a projectile
3. A pair of vectors having unequal magnitudes and exactly opposite direction
4. Ratio of relative velocities of bodies after collision to their relative velocity before collision

SECTION D

This section consists of 4 questions of 2 marks each, 4 questions of 3 marks each and 3 questions of 5 marks each.

Answer the following questions:

1. convert the value of G into CGS system using dimensional analysis 2
2. A cricket ball of mass 100g falls vertically down from a height of 14m. Calculate its velocity when it hits the ground 2
3. A boy throws a stone of mass 50g horizontally with a velocity of 20m/s. How far from him will it hit the ground? 2
4. Calculate the work done by the net force in moving a 10kg object on a horizontal surface with coefficient of friction 0.4 by 10m applying a force of 200N. 2
5. Derive an expression for the energy of a stretched spring in terms of the extension caused in it. 3
6. Show that the mechanical energy is conserved in the case of a freely falling body 3
7. A crow is flying at a height of 20m above the ground horizontally with a speed of 10m/s when a prey falls off its mouth. A dog sitting right below the crow notices it and runs to catch the prey before it reaches the ground. Calculate the acceleration needed by the dog to do so. 3
8. Prove that the magnitude of the ratio of difference in speed after collision to the difference in the speed before collision for a 1D elastic collision is equal to one 3
9. Derive an expression for the magnitude and direction of the resultant of two vectors 5
10. Derive an expression for the equation of the trajectory and time of flight of an oblique projectile 5
11. Derive an expression for the velocity of objects after elastic collision in one dimension 5

Q.41 Which one of the following collisions is not elastic?

(A) A hard steel ball dropped on a hard concrete floor and rebounding to its original height.

(B) Two balls moving in the same direction collide and stick to each other

(C) Collision between molecules of an ideal gas.

(D) Collisions of fast neutrons with hydrogen atoms in a fission reactor.

Q.42 Which one of the following statements is true about inelastic collision?

(A) The total kinetic energy of the particles after collision is equal to that before collision.

(B) The total kinetic energy of the particle after collision is less than that before collision.

(C) The total momentum of the particles after collision is less than that before collision.

(D) Kinetic energy and momentum are both conserved in the collision.

Q.43 In elastic collision

(A) Only energy is conserved.

- (B) Only momentum is conserved.
- (C) Neither energy nor momentum is conserved.
- (D) Both energy and momentum are conserved.

Q. 44 Conservation of momentum in a collision between particles can be understood from

- (a) conservation of energy.
- (b) Newton's first law only.
- (c) Newton's second law only.
- (d) both Newton's second and third law

Q. 45 If two bodies collide against each other and upon colliding, stick to each other and continue moving as one mass, the type of collision is:

- (a) elastic collision
- (b) inelastic collision
- (c) perfectly inelastic collision
- (d) none of the above

Lourdes Central School

Model paper

Class: XI-2022-23

Subject: Chemistry

Time Allowed: 3 hrs.

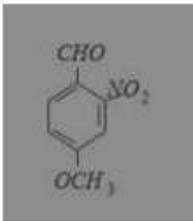
Date: 19 /09/2022

Maximum Marks: 70

General Instructions:

Read the following instructions very carefully and strictly follow them:

- (i) This question paper comprises four Sections – A, B, C and D. There are 46 questions in the question paper. All questions are compulsory.
- (ii) Section A – Questions no. 1 to 35 are very short answer type questions, carrying 1 mark each. Answer these questions in one word or one sentence.
- (iii) Section B – Questions no. 36 to 39 are short answer type questions, carrying 2 marks each.
- (iv) Section C – Questions no. 40 to 43 are long answer type-I questions, carrying 3 marks each.
- (v) Section D – Questions no. 44 to 46 are long answer type-II questions, carrying 5 marks each.
- (vi) There is no overall choice in the question paper. However, an internal choice has been provided, You have to attempt only one of the choices in such questions.
- (vii) In addition to this, separate instructions are given with each section and question, wherever necessary.
- (viii) Use of calculators and log tables is not permitted.**

no	QUESTIONS	MARKS
	MULTIPLE CHOICE QUESTION	
1	Molecules are held together in a crystal by (i) hydrogen bond(ii) electrostatic attraction(iii) Van der Waal's attraction (iv) dipole-dipole attraction	1
2	What is the correct IUPAC name of 	1
3	Which atoms are indicated by the following configurations ? (a) [He]2s ¹ (b) [Ne] 3s ² 3p ³ (c) [Ar] 4s ² 3d ¹	1

4	The bond length between hybridised carbon atom and other carbon atom is minimum in (a) Propane(b) Butane(c) Propene(d) Propyne	1
5	An atom of an element A has three electrons in its outermost orbit and that of B has six electrons in its outermost orbit. The formula of the compound between these two will be (a) A_3B_6 (b) A_2B_3 (c) A_3B_2 (d) A_2B	1
6	The element with atomic number 35 belongs to (a) d – Block(b) f – Block(c) p – Block(d) s – Block	1
7	representative elements are those which belong to (a) p and d – Block(b) s and d – Block(c) s and p – Block(d) s and f – Block	1
8	Which of the following properties generally decreases along a period? (a) Ionization Energy(b) Metallic Character(c) Electron Affinity(d) Valency.	1
9	For a given principal level $n = 4$, the energy of its subshells is in the order (a) $s < p < d < f$ (b) $s > p > d > f$ (c) $s < p < f < d$ (d) $f < p < d < s$	1
10	A gas absorbs a photon of 355 nm and emits at two wavelengths. If one of the emissions is at 680 nm, the other is at: (a) 518 nm (b) 1035 nm(c) 325 nm(d) 743 nm	1
11	The magnetic quantum number specifies (a) Size of orbitals(b) Shape of orbitals (c) Orientation of orbitals(d) Nuclear Stability	1
12	which of the following element has least number of electrons in its M-shell? (a) K(b) Mn(c) Ni(d) Sc	1
13	The number of moles present in 6 gms of carbon is: (a) 2(b) 0.5(c) 5(d) 1	1
14	Which is not a unit of pressure: (a) Bar(b) N/m^2 (c) Kg/m^2 (d) Torr	1
15	An organic compound contains carbon , hydrogen and oxygen. Its elemental analysis gave C, 38.71% and H, 9.67%. The empirical formula of the compound would be (a) CHO(b) CH_4O (c) CH_3O (d) CH_2O	1
16	The S.I unit of temperature is_____	1
17	The significant figures in 3400 are_____	
18	A sub-shell with $n = 6$, $l = 2$ can accommodate a maximum of10 electron. T/F	
19	On the Paulings electronegativity scale the element next to F is_____	
20	Arrange the following in increasing order of C – C bond strength: C_2H_6 , C_2H_4 , C_2H_2 .	
	Read the following passage carefully and answer the questions given bellow: Kamla prepared aqueous solutions of barium chloride and sodium sulphate. She weighed them separately and then mixed them in a beaker. A white precipitate was immediately formed. She filtered the precipitate, dried it and then weighed it. After reading this narration, answer the following questions: 21. Write the formula of white ppt formed. 22. Will the weight of the precipitate be the same as that of the reactants before mixing? 23. If not, what she should have done? 24. Which law of chemical combination does this support?	

	25.State the law of conservation of mass.													
26	<p>1. Match the correct atomic radius with the element.</p> <table border="1"> <thead> <tr> <th>Element</th> <th>Atomic radius (pm)</th> </tr> </thead> <tbody> <tr> <td>Be</td> <td>74</td> </tr> <tr> <td>C</td> <td>88</td> </tr> <tr> <td>O</td> <td>111</td> </tr> <tr> <td>B</td> <td>77</td> </tr> <tr> <td>N</td> <td>66</td> </tr> </tbody> </table>	Element	Atomic radius (pm)	Be	74	C	88	O	111	B	77	N	66	
Element	Atomic radius (pm)													
Be	74													
C	88													
O	111													
B	77													
N	66													
27	Why do elements in the same group have similar physical and chemical properties?													
28	Draw the resonating structure of Ozone molecule													
29	<p>Explain why cation are smaller and anions larger in radii than their parent atoms?</p> <p><i>In the following questions a statement of Assertion (A) followed by a statement of reason (R) is given. Choose the correct option out of the choices given below each question. to compensate for the increased attraction of the electron to the nucleus.</i></p> <p>(i) Assertion is correct statement and reason is wrong statement.</p> <p>(ii) Assertion and reason both are correct statements and reason is correct explanation of assertion.</p> <p>(iii) Assertion and reason both are wrong statements.</p> <p>(iv) Assertion is wrong statement and reason is correct statement.</p> <p>30 . Assertion (A) : Pent- 1- ene and pent- 2- ene are position isomers. Reason (R) : Position isomers differ in the position of functional group or a substituent.</p> <p>31. Assertion (A): Generally, ionisation enthalpy increases from left to right in a period. Reason (R): When successive electrons are added to the orbitals in the same principal quantum level, the shielding effect of the inner core of electrons does not increase very much</p> <p>32.Assertion (A) : Sodium chloride formed by the action of chlorine gas on sodium metal is a stable compound. Reason (R) : This is because sodium and chloride ions acquire octet in sodium chloride formation.</p> <p>33.(i) Assertion (A) : Generally, ionisation enthalpy increases from left to right in a period. Reason (R) : When successive electrons are added to the orbitals in the same principal quantum level, the shielding effect of inner</p> <p>34. Assertion (A) : All isotopes of a given element show the same type of chemical behaviour.</p>													

	Reason (R) : The chemical properties of an atom are controlled by the number of electrons in the atom.	
35	Explain why cation are smaller and anions larger in radii than their parent atoms?	
36	Define the term ionization enthalpy? How does it vary along a period and along a group?	2
37	How would you explain the fact that the first ionization enthalpy of sodium is lower than that of magnesium but its second ionization enthalpy is higher than that of magnesium?	2
38	Write Lewis symbols for the following atoms and ions: S and S^{2-} ; Al and Al^{3+} ; H and H^{-}	2
39	Consider the following species: N^{3-} , O^{2-} , F^{-} , Na^{+} , Mg^{2+} , Al^{3+} (a) What is common in them? (b) Arrange them in order of increasing ionic radii?	2
40	Write bond-line formulas for: Isopropyl alcohol, 2,3-Dimethylbutanal, Heptan-4-one	3
41	Write the favourable factors for the formation of ionic bond.	3
42	Assign the position of the element having outer electronic configuration, (i) $ns^2 np^4$ for $n = 3$ (ii) $(n - 1) d^2 ns^2$ for $n = 4$ and (iii) $(n - 2) f^7 (n - 1) d^1 ns^2$ for $n = 6$ in the periodic table?	3
43	answer the following questions: (a) Identify the element in the second period of the periodic table with five electrons in the outer subshell. (b) Identify the element in the periodic table that would tend to lose two electrons. (c) Identify the group in the periodic table that would tend to gain two electrons	3
	5 marks	
44	(i) Considering the elements B, Al, Mg and K, the correct order of their metallic character is- (ii) Considering the elements B, C, N, F and Si, the correct order of their non-metallic character is:iii) write the general characteristics of p block elements	5
45	The quantum numbers of six electrons are given below. Arrange them in order of increasing energies. List if any of these combination(s) has/have the same energy (i) $n = 4, l = 2, m_l = -2, m_s = -1/2$ (ii) $n = 3, l = 2, m_l = 1, m_s = +1/2$ (iii) $n = 4, l = 1, m_l = 0, m_s = +1/2$ (iv) $n = 3, l = 2, m_l = -2, m_s = -1/2$ (v) $n = 3, l = 1, m_l = -1, m_s = +1/2$ (vi) $n = 4, l = 1, m_l = 0, m_s = +1/2$	5
46	Considering the elements B, Al, Mg and K, the correct order of their metallic character is- (ii) Considering the elements B, C, N, F and Si, the correct order of their non-metallic character is:iii) write the general characteristics of p block elements	5

LOURDES CENTRAL SCHOOL
Midterm Examination Sample Paper
Class XI
Mathematics (Code- 041)

Time allowed : 3 hours

Maximum Marks : 80

Date :

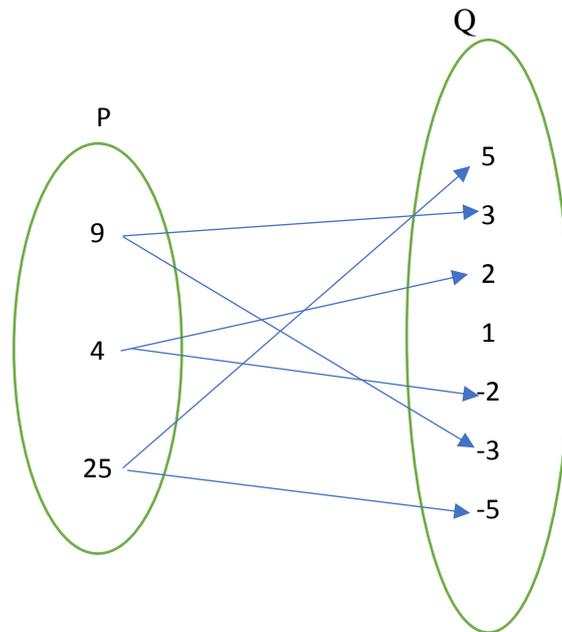
General Instructions:

1. All questions are compulsory.
2. This question paper contains **five sections – A,B, C,D and E**. Each part is compulsory.
3. Section A comprises of 19 MCQ questions of one mark each (from Q01 - 19) and one Case-study based question with five sub-parts of one mark each Q20.
4. Section B comprises of 16 questions of one mark each (from Q21 – Q36)
5. Section C comprises of 06 questions of two marks each (from Q37 – Q42).
6. Section D comprises of 04 questions of three marks each (from Q43 -Q46).
7. Section E comprises of 04 questions of four marks each (from Q47 -Q50).
8. There is an **internal choice** in some of the questions.

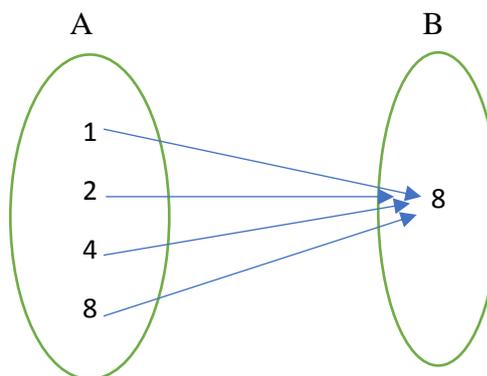
SECTION A

1. For any set A , (A')' is equal to
a) A' b) A c) \emptyset d) none of these
2. Let A and B be any two sets in the same universal set. Then $A - B =$
a) $A \cap B$ b) $A' \cap B$ c) $A \cap B'$ d) none of these
3. The number of subsets of a set containing n elements is
a) n b) $2^n - 1$ c) n^2 d) 2^n
4. If the arcs of the same length in two circles subtend angles 65° and 110° at the centre then the ratio of the radii of the circles is
a) 22:13 b) 11:13 c) 22:15 d) 21:13
5. The value of $\sin 315^\circ$ is a) $\frac{1}{\sqrt{2}}$ b) $-\frac{1}{\sqrt{2}}$ c) $\frac{1}{2}$ d) $-\frac{1}{2}$
6. The value of $\sin\left(\frac{-11\pi}{3}\right)$ is a) $\frac{\sqrt{3}}{2}$ b) $-\frac{\sqrt{3}}{2}$ c) $-\frac{1}{\sqrt{2}}$ d) $\frac{1}{2}$
7. The value of $\sin\frac{7\pi}{12} \cos\frac{\pi}{4} - \cos\frac{7\pi}{12} \sin\frac{\pi}{4}$ is
a) $\frac{\sqrt{3}}{2}$ b) $-\frac{\sqrt{3}}{2}$ c) $-\frac{1}{\sqrt{2}}$ d) $\frac{1}{2}$
8. The additive inverse of $6i - i\sqrt{-49}$ is
a) $-6-7i$ b) $6-7i$ c) $-6+7i$ d) $6+7i$
9. The value of $i + i^{10} + i^{20} + i^{30}$ is a) 1 b) -1 c) 0 d) i-1
10. Let $x, y \in \mathbb{R}$, then $x+iy$ is a non real complex number if
a) $x=0$ b) $y=0$ c) $x \neq 0$ d) $y \neq 0$
11. For $x \in \mathbb{R}$ the solution of $2x-4 \leq 0$ is
a) $(-\infty, 2]$ b) $(\infty, 2]$ c) $[-\infty, 2]$ d) $[2, -\infty)$
12. The solution of the following system of inequalities $3x-6 \geq 0$, $4x-10 \leq 6$ is
a) $[2, \infty)$ b) $(-\infty, 4]$ c) $[2, 4]$ d) $(\infty, 2]$
13. The value of $\frac{20!}{18!}$ is a) 210 b) 380 c) 360 d) 10
14. Total number of words formed by 2 vowels and 3 consonants taken from 4 vowels and 5 consonants is a) 60 b) 120 c) 7200 d) none of these
15. If ${}^{10}C_x = {}^{10}C_{x+4}$ then the value of x is a) 6 b) 3 c) 10 d) 4
16. The number of chords that can be drawn given 21 points on a circle is

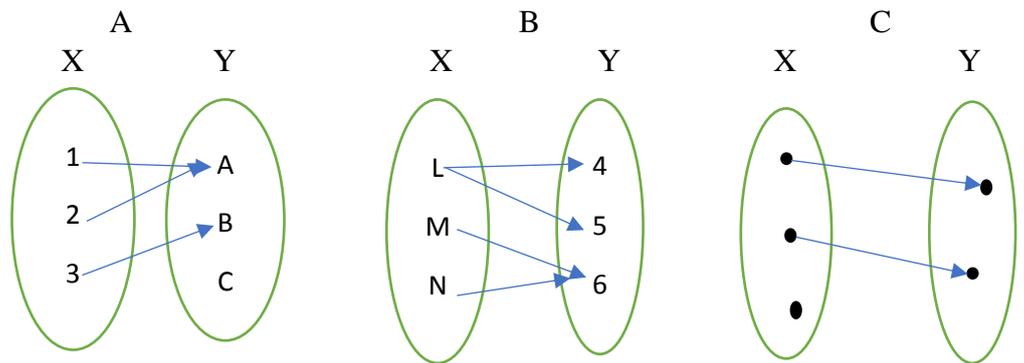
17. If ${}^m C_1 = {}^n C_2$ then
 a) 210 b) 380 c) 360 d) 10
18. $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x - 3} =$ a) 0 b) undefined c) 6 d) 3
19. $\lim_{x \rightarrow 0} \frac{e^x - 1}{x} =$ a) 0 b) undefined c) 1 d) e^x
20. A relation or a function can be represented pictorially using arrow diagrams.



- i) The relation defined in the above arrow diagram from the set P to the set Q is
 a) x is a square of y b) x is a square root of y c) y is a square of x
 d) none of these
- ii) The number of elements in $P \times Q$ is a) 20 b) 21 c) 10 d) 11



- iii) The relation defined in the above arrow diagram from the set A to the set B is
 a) $x = 2y$ b) $y = 2x$ c) x is factor of y d) y is factor of x
- iv) The number of relations from the set A to the set B is
 a) 4 b) 8 c) 16 d) 2



- v) Which of the above arrow diagrams represents a function ?
 a) A and B b) A c) A and C d) B and C

SECTION B

21. Write the following as an interval $\{x: x \in \mathbb{R}, -3 < x \leq 7\}$
22. Let R be a relation on Z defined by $R = \{(a,b) : a,b \in \mathbb{Z}, a+b \text{ is an integer}\}$ Find the domain and range of R.
23. If $\cos x = -3/5$ and x lies in the third quadrant find $\tan x$
24. Find the modulus of $z = -1 - i\sqrt{3}$
25. Find the multiplicative inverse of i .
26. Find the real part of z if $z = 2 + 3i$
27. Find the value of $(i^{18})^3$
28. Solve the inequality $7 \leq \frac{(3x+11)}{2} \leq 11$
29. Find all pairs of consecutive odd positive integers both of which are smaller than 10 such that their sum is more than 11.
30. Show the solution of $7x+3 < 5x+9$ on the number line .
31. In how many ways can 5 girls and 3 boys be seated in a row so that no two boys are together ?
32. How many permutations of the letters of the word APPLE are there ?
33. How many words with or without meaning can be formed by using the letters of the word TRIANGLE ?
34. From a class of 32 students , 4 are to be chosen for a competition. In how many ways can this be done ?
35. In how many ways can a student choose 5 courses out of 9 courses if 2 courses are compulsory for every student ?
36. Find $\lim_{x \rightarrow 1} x^3 - x^2 + 1$

SECTION C

37. If $A = \{3,5,7,9,11\}$, $B = \{7,9,11,13\}$, $C = \{11,13,15\}$ then find $A - B$ and $A \cap (B \cup C)$
38. If $A = \{1,2,3\}$, $B = \{3,4\}$ and $C = \{4,5,6\}$ find $(A \times B) \cap (A \times C)$
39. Find the value of $\sin 15^\circ$

OR

Find the value of $\cos 75^\circ$

40. Reduce to standard form $\frac{1+7i}{(2-i)^2}$
41. Find n if ${}^{n-1}P_3 : {}^nP_4 = 1:9$

OR

Find n if ${}^{2n}C_3 : {}^nC_3 = 12:1$

42. Compute $\lim_{x \rightarrow 0} \frac{e^{3x} - 1}{x}$

SECTION D

43. Find the domain and range of the real function defined by $f(x) = \sqrt{x-1}$

OR

Find the domain and range of the real function defined by $f(x) = \sqrt{16-x^2}$

44. Find the value of $\left(\frac{1}{3} + 3i\right)^3$
45. In an experiment, a solution of hydrochloric acid is to be kept between 30° and 35° celsius. What is the range of temperature in degree Fahrenheit if conversion formula is given by $C = \frac{5}{9}(F - 32)$ where C and F represent temperature in degree Celsius and degree Fahrenheit respectively.
46. Using First Principle find the derivative of $f(x) = 10x$

OR

Using First Principle find the derivative of $f(x) = x^2$

SECTION E

47. If $U = \{1,2,3,4,5,6,7,8,9\}$, $A = \{2,4,6,8\}$ and $B = \{2,3,5,7\}$ verify that $(A \cup B)' = A' \cap B'$

OR

If $U = \{1,2,3,4,5,6,7,8,9\}$, $A = \{2,4,6,8\}$ and $B = \{2,3,5,7\}$ verify that $(A \cap B)' = A' \cup B'$

48. Simplify $\frac{\sin 5x + \sin 3x}{\cos 5x + \cos 3x}$
49. Find the number of arrangements of the letters of the word INDEPENDENCE. In how many of these arrangements do
i) the words start with P
ii) all the vowels always occur together
iii) the vowels never occur together
iv) the words begin with I and end with P

OR

In how many ways can the letters of the word PERMUTATIONS be arranged if the

- i) Words start with P and end with S
ii) Vowels are all together
iii) There are always 4 letters between P and S.
50. Differentiate the following function with respect to x

$$f(x) = \frac{4x+5 \sin x}{3x+7 \cos x}$$

LOURDES CENTRAL SCHOOL
MODEL QUESTION PAPER- 2022
SUBJECT: BIOLOGY

CLASS XI

Marks: 70

Time: 3Hrs

General instructions

1. The Question Paper contains three sections.
2. Section A has 21 questions of MCQs, case study based questions carrying 1 mark each.
3. Section B has 14 objective questions carrying 1 mark each.
4. Section C has 11 descriptive questions. Questions from 36-39 carry 2marks, Questions from 40-43 carry 3marks and 44-46 carry 5 marks.

SECTION A

1. MULTIPLE CHOICE QUESTIONS

1. Question 2.

Cell plate grows from

- (a) walls to the centre
- (b) centre to the walls
- (c) in patches
- (d) simultaneously

2. Longest cell in human body are

- (a) Muscle cell
- (b) Nerve cells
- (c) Blood cells
- (d) Mast cells

3. In mitosis, nuclear envelope and nucleolus disappear during

- (a) Metaphase
- (b) Interphase
- (c) Prophase
- (d) Telophase

4. Archegoniophore is present in:

- (a) Marchantia
- (b) virus
- (c) rose
- (d) gymnosperms

5. The main difference between Gram positive and gram negative resides in the composition of:

- (a) Cilia
- (b) Cell-wall
- (c) Cell-membrane
- (d) Cytoplasm

6. Which of the following structure is not found in prokaryotic cells :

- (a) Plasma membrane
- (b) Ribosomes
- (c) Nuclear membrane and membranous cell organelles
- (d) Hereditary substance

7. Choose the correct sequence. A. Chromatin condensation B. Protein synthesis C. Duplication of centrioles D. Centrioles moves towards opposite poles

- (a) C, A, B, D
- (b) C, B, A, D
- (c) C, D, B, A
- (d) A, C, D, B

8. Which one of the following is true for fungi?

- (a) They are phagotrophs
- (b) They lack a rigid cell wall
- (c) They are heterotrophs
- (d) They lack nuclear membrane

9. Which Archaeobacteria is present in the guts of ruminant animals such as cows and buffaloes?

- (a) Speculums
- (b) Methanogens
- (c) Heterogens
- (d) Holophiles

10. Which of the following is an exception of monera kingdom –

- (a) Bacteria
- (b) Virus
- (c) Cyanobacteria
- (d) Mycoplasma

11. Golgi complex and endoplasmic reticulum cannot be seen during

- (a) late telophase
- (b) late prophase
- (c) early anaphase
- (d) late metaphase

12. Meiosis occurs for the human female in _____.

- (a) Pancreas
- (b) Liver
- (c) Ovary
- (d) Kidney

13. Bryophytes include -

- (a) Mosses (b) Lycopods (c) Horse tail (d) Liverworts+ mosses

14. Which is the correct statement about bryophytes?

- (a) Sporophyte is multicellular, not free living but attached with plant body (gametophyte) for nourishment from it
- (b) Some cells of the sporophyte undergo meiosis to produce haploid homospores
- (c) Spores germinate to produce gametophyte
- (d) All

15. Plastids which store fats and oils are called:-

- (a) Aleuroplast (b) Amyloplast (c) chloroplast (d) Elaioplast

11. CASE BASED QUESTIONS

Cell division is the process by which a parent cell divides, when a mother cell divides into two or more daughter cells. Cell division usually occurs as part of a larger cell cycle. There are two types of cell division: mitosis and meiosis. Most of the time when people refer to “cell division,” they mean mitosis, the process of making new body cells. Meiosis is the type of cell division that creates egg and sperm cells. Mitosis is a fundamental process for life

16. Arrange the following events of meiosis in the correct sequence: I. Terminalization II. Crossing over III. Synapsis IV. Disjunction of genomes The correct sequences:

- (a) II, I, IV, III
- (b) III, II, I, IV
- (c) IV, III, II, I
- (d) I, IV, III, II

Question 9.

17. The major event that occurs during the anaphase of mitosis, which brings about the equal distribution of chromosomes, is

- (a) splitting of the centromeres
- (b) splitting of the chromatids

- (c) replication of the genetic material
- (d) condensation of the chromatin

18. Meiosis occurs for the human female in _____.

- (a) Pancreas
- (b) Liver
- (c) Ovary
- (d) Kidney

19. Choose the correct sequence. A. Pachytene B. Zygotene C. Leptotene D. Diakinesis E. Diplotene

- (a) C, B, A, D, E
- (b) C, A, B, E, D
- (c) C, B, A, E, D
- (d) D, B, C, E, A

19. Which of the following cellular structures always disappears during mitosis and meiosis?

- (a) Plasma membrane
- (b) Nucleolus and nuclear envelope
- (c) Plastids
- (d) none of these

20. Centromere is a constituent of

- (a) Ribosome
- (b) ER
- (c) Chromosome
- (d) Mitochondrion

21. In which phase of cell cycle, proteins are synthesised?

- (a) G₀
- (b) G₁
- (c) G₂
- (d) S

SECTION B

22. 1. What is an artificial system of classification?

In-Plant kingdom, the artificial system of classification is based on the vegetative characters and androecium

23. What is Chemotaxonomy?

Chemotaxonomy is defined as the method of biological classification based on similarities in the chemical constituents of the plants.

24. Why are bryophytes considered amphibians of the plant kingdom?

A.1. Bryophytes are considered amphibians of the plant kingdom because they depend on water for the movement of male gametes called antherozoids to reach archegonium for fertilization.

25. Explain different types of phyllotaxy with suitable examples.

The pattern in which the leaves are arranged on the stem is known as phyllotaxy. These are of three types:

- Alternate Phyllotaxy- The leaf arises from each node in an alternate b labeled in the diagram and write their function manner. For eg., China rose, sunflower.
- Opposite Phyllotaxy- The leaves arising at each node lie opposite to each other. For eg., Calotropis
- Whorled Phyllotaxy- More than two leaves arise at each node and form a whorl. For eg., Alstonia

26. Write the functions of roots to a plant

27. Mention the role of cotyledons and endosperm in seed germination..

28. What is the importance of a vacuole in a plant cell?

29. Why are both gymnosperms and angiosperm classified separate in spite of both bearing seeds?

30. Represent the difference between diploblastic and triploblastic condition diagrammatically

31. State the characteristics of prokaryotic cells.

32. What is meant by epipetalous, tetramerous flower?

33. Why is cell the basic unit of life?

34 Who postulated cell theory.

35. Name the different phases of meiotic prophase – I. Mention the chromosomal events during each stage.

SECTION C

36. Explain cytokinesis, karyokinesis?

37. Define a) phyllotaxy b) aestivation.

38. Draw neat labeled diagram of chloroplast and write its functions.

39. Name the floral parts of an angiosperm. Also, mention their arrangements.

A.10. Following are the floral parts of a typical angiosperm:

- Calyx- Outermost whorl of the flower. It comprises of sepals. They are usually green and protective.
- Corolla- It comprises of petals. These are bright in colour.
- Androecium- It is made up of stamens which is the male reproductive organ. It consists of a filament and anther.
- Gynoecium- It is the female reproductive part of the flower and is made up of one or more carpels. Each carpel comprises of stigma, style, and ovary.

40. Explain fluid mosaic model of the plasma membrane? Who proposed the fluid mosaic model of the plasma membrane?

41. Differentiate between:

(a) gamopetalous and polypetalous flower

(b) Racemose inflorescence and Cymose inflorescence

42. Explain the types of flowers based on the symmetry.

43. Draw neat labeled diagram of female reproductive system of frog.

44. a) Explain the various criteria used for the classification of kingdom animalia.

Or

b) What are the general features of class pisces? Differentiate between chondrichthyes and osteichthyes

45. a) What are the functions of flower? What are the various parts of a flower? Explain with the help of labeled diagram

or

b) What is kinetochore. Explain the types of chromosomes based on with the help of diagrams

46.a) Explain the various types of aestivation .Explain each with example.

or

b) Explain mitosis/meiosis with diagrams