

### 9th Book Back Questions

### TERM-I

### **UNIT- 1. Measurement and Measuring Instruments**

#### I. Multiple Choice Questions

- 1. Choose the correct one
- a. mm < cm < m < km

b. mm > cm > m > km

c. km < m < cm < mm

- d. mm > m > cm > km
- 2. Rulers, measuring tapes and metre scales are used to measure
- a. Mass
- b. Weight
- c. Time
- d. Length

- 3. 1 metric ton is equal to
- a. 100 quintals
- b. 10 quintals
- c. 1/10 quintals
- d. 1/100 quintals
- 4. Distance between Chennai and Kanyakumari can be found in
- a. Kilometres
- b. Metres
- c. Centimetres
- d. Millimetres
- 5. Which among the following is not a device to measure mass?
- a. Spring balance
- b. Beam balance
- c. Physical balance
- d. Digital balance

#### II. Fill in the blanks

- 1. Metre is the unit of **length**
- 2. 1 kg of rice is weighed by **common beam balance**
- 3. The thickness of a cricket ball is measured by **Vernier calliper**
- 4. The radius of a thin wire is measured by **screw gauge**
- 5. A physical balance measures small differences in mass up to **1mg**

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#### IV. Match the following

1. Column I Column II

Length Kelvin

Mass metre

Time kilogram

Temperature second

Ans: 2341

2. Column I Column II

Screw gauge Vegetables

Vernier calliper Coins

Beam balance Gold ornaments

Digital balance Cricket ball

Ans: 2413

3. Column I Column II

Temperature Beam balance

Mass Ruler

Length Digital clock

Time Thermometre

Ans: 4123

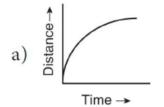
### **UNIT 2. Motion**

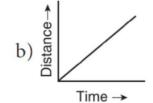
### I. Multiple Choice Questions

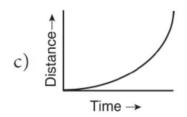
- 1. Slope of the velocity time graph gives
- a) speed b) displacement
- c) distance

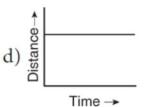
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- d) acceleration
- 2. Which of the following graph represents uniform motion of a moving particle?









### Ans: b)

3. A body moving with an initial velocity 5ms-1 and accelerates at 2ms-2. Its velocity after 10s is

- a) 20ms<sup>-1</sup>
- b) 25 ms<sup>-1</sup>
- c) 5 ms<sup>-1</sup>
- d) 22.55 ms<sup>-1</sup>

4. In a  $100\ m$  race, the winner takes  $10\ s$  to reach the finishing point. The average speed of the winner is

- a) 5 ms<sup>-1</sup>
- b) 20 ms<sup>-1</sup>
- c) 40 ms<sup>-1</sup>
- d) 10 ms<sup>-1</sup>

5. The area under velocity - time graph represents

- a) velocity of the moving object
- b) displacement covered by the moving object
- c) speed of the moving object

d) acceleration of the moving object

6. A car is being driven at a speed of 20 ms<sup>-1</sup> when brakes are applied to bring it to rest in 5 s. The deceleration produced in this case will be

- a)  $+4 \text{ ms}^{-2}$
- b)  $-4 \text{ ms}^{-2}$
- c)  $-0.25 \text{ ms}^{-2}$
- d)  $+0.25 \text{ ms}^{-2}$

7. Unit of acceleration is

- a) ms<sup>-1</sup>
- b) ms-2
- c) ms
- d) ms2

8. Which one of the following is most likely not a case of uniform circular motion?

a) Motion of the Earth around the Sun.

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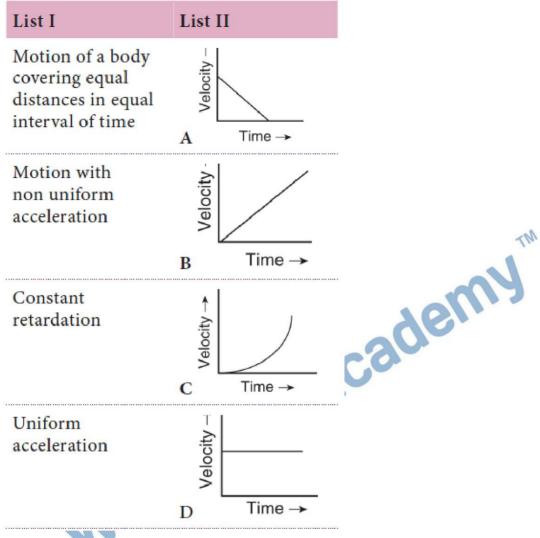
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- b) Motion of a toy train on a circular track.
- c) Motion of a racing car on a circular track.
- d) Motion of hours' hand on the dial of the clock.
- 9. The force responsible for drying of clothes in a washing machine is ....
- a) Centripetal force
- b) Centrifugal force
- c) Gravitational force
- d) Electro static force
- 10. The centrifugal force is ....
- a) Real force
- b) The force of reaction of centripetal force
- c) Virtual force
- d) Directed towards the centre of the circular path

#### II. Fill in the Blanks

- 1. Speed is a Scalar quantity whereas velocity is a Vector quantity
- 2. The slope of the distance time graph at any point gives Speed
- 3. Consider an object is rest at position x = 20m. Then its displacement time graph will be straight line to **parallel to** the axis.
- 4. Negative acceleration is called **Deceleration**
- 5. Area under velocity time graph shows Distance Travelled

#### III. Match



Ans: 4312

### **UNIT-3. Light**

### **I. Multiple Choice Questions**

- 1. The field of view \* is maximum for \_\_\_\_\_
- a) plane mirror b) concave mirror c) convex mirror
- 2. When a ray of light passes from one medium to another medium, refraction takes
- place when angle of incidence is b) 45° c) 90°

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3 is used as refl	ectors in torchlight			
a) concave mirror	b) convex mirror	c) plane mirror		
4. We can create enlarged	l, virtual images with			
a) concave mirror	b) convex mirror	c) plane mirror		
5. When the reflecting su	5. When the reflecting surface is curved outwards the mirror formed will be			
a) concave mirror	b) convex mirror	c) plane mirror		
6. The focal length of a co	ncave mirror is 5cm. Its ra	idius of curvature is		
a) 5 cm <b>b) 10 cm</b>	c) 2.5 cm			
7. When a beam of white	light passes through a pris	sm it gets		
a) Reflected <b>b) de</b>	viated and dispersed	c) only deviated		
8. The speed of light is ma	aximum in	Van		
a) vacuum	b) glass c) dia	mond		
9. A real and enlarged im	age c <mark>an be obt</mark> ained by usi	ng a		
a) convex mirror	b) plane mirror	c) concave mirror		
10. Which of the followin	g statements about total ir	nternal reflection is true?		
a) angle of incidence show	uld be greater than critical	angle		
b) light must travel from	a medium of higher refrac	tive index to a medium of lower		
refractive index				
c) both (a) and (b)				
As				
II. Fill in the blanks / co	mplete the Sentence			
1. In going from a rarer to	o denser medium, the ray o	of light bends <b>towards normal</b>		
<b>2.</b> The ratio of sine of the	angle of incidence to the s	ine of <b>Angle of refraction</b> is a		
constant.				
<b>3.</b> The mirror used in sea	rch light is <b>concave mirr</b>	or		
<b>4.</b> The angle of deviation of light ray in a prism depends on the angle of <b>Incidence</b>				
<b>5.</b> The radius of curvature of a concave mirror whose focal length is 5cm is <b>10cm</b>				
<b>6.</b> A spherical mirror whose reflecting surface is curved outwards is called <b>convex</b>				

#### mirror

- **7.** Large **concave** mirrors are used to concentrate sunlight to produce heat in solar furnaces
- **8.** All distances parallel to the principal axis are measured from the **Pole** of the mirror
- 9. A negative sign in the value of magnification indicates that the image is Real
- **10.** Light is refracted or bent while going from one medium to another because its **Speed and wavelength** changes.

#### III. Match the following

i) List I	List II
1. Ratio of height of image to height of object.	1. concave mirror
2. Used in hairpin bends in mountains	2. total internal reflection
3. Coin inside water appearing slightly raised	3. magnification
4. Mirage	4. convex mirror
5. Used as Dentist's mirror	5. refraction

Ans: 3 4 5 2 1

ii) Position of object	Position of image	Size and nature of image
1. Within focus	a) Between F and C	A) Magnified , Real, inverted
2. At focus F	b) At C	B) Magnified, virtual, erect
3. Between F and C	c) Behind the mirror	C) Diminished, Real, inverted
4. At C	d) Infinity	D) Highly Diminished, Real, inverted
5. Beyond C	e) At F	E) Highly Magnified , Real, inverted
6. At infinity	f) Beyond C	F) Same size, Real, inverted

Ans: 1-c-B, 2-d-E, 3-f-A, 4-b-F, 5-a-C, 6-e-D

#### **UNIT-4. Matter around us**

#### I. Choose the correct answer

1.	The phy	sical state	of water a	at 373 I	K is
----	---------	-------------	------------	----------	------

b) liquid

2. Among the following \_\_\_\_\_ is a mixture

d) Pure Silver a) Common Salt b) Juice c) Carbon dioxide

3. When we mix a drop of ink in water we get a \_\_\_\_\_

a) Heterogeneous Mixture

b) Homogeneous Mixture

c) vapour

c) Compound

a) Solid

d) Suspension

4. The constituents that form a mixture are also called

a) Elements b) Compounds c) Alloys d) Components

d) plasma

5. \_\_\_\_\_ has the same properties throughout the sample \_\_\_

a) Pure substance

b) Mixture

c) Colloid

d) Suspension

#### III. Match the following

S.No	A	В
i	Element	Settles down on standing
ii	Compound	Impure substance
iii	Colloid	Made up of molecules
iv	Suspension	Pure substance
v	Mixture	Made up of atoms

Ans: 54312

#### IV. Fill in the blanks

- **1.** Evaporation is always accompanied by **decrease** in temperature
- 2. 150°C =423 K
- **3.** A **homogenous** mixture has no distinguishable boundary between its components.

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- 4. An example of a substance that sublimes is Naphthalene
- 5. Latent heat is the energy used for Inter conversion of matter

#### **EXERCISE 2**

#### I. Choose the correct answer

1. Difference in	is the pr	inciple used in frac	tional distillation
a) solubility	b) melting point		
c) boiling point	d) adsorption		
2. The separation of	of denser particles fr	om lighter particle	s done by rotation at high
speed is called			
a) Filtration	b) sedimentation	c) decantation	d) centrifugation
3 is es	sential to perform se	eparation by solven	t extraction method.
a) Separating fun	nel b) cen	trifuge machine	Ollis
c) filter paper	d) siev	ze C	10.

c) liquid-liquid

5. For a simple distillation process we need to have

b) solid-liquid

4. Filtration method is effective in separating

- a) an evaporating dish. b) a separating funnel.
- c) a filter with filter paper. d) a Liebig condenser.

### III. Match the following

a) Solid-solid

	Α	В	C
	A	В	_
i	Sand and camphor	i. Ink	a. Distillation
ii	Acetone and water	ii. Miscible liquids	b. Chromatography
iii	Pigments	iii. Immiscible liquids	c. Separating funnel
iv	Salt and water	iv. Mixture of two solids	d. Fractional distillation
v	Water and kerosene	v. Soluble	e. Sublimation

Ans: 1-iv-e; 2-ii-d; 3-i-b; 4-v-d; 5-iii-c

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mixture

d) liquid-gas

#### IV. Fill in the blanks

- 1. Alcohol can be separated from water by **Distillation**
- 2. Sand is removed from naphthalene by **Sublimation** method.
- 3. In petroleum refining, the method of separation used is **Fractional Distillation**
- 4. Chromatography is based on the principle of **adsorption**
- 5. The solubility of solid in water **increases** with an increase in temperature

#### UNIT- 5. Atomic Structure

### I. Multiple Choice Questions

- c)  ${}^{30}_{14}\text{Si}$ ,  ${}^{31}_{15}\text{P}$  d)  ${}^{54}_{24}\text{Cr}$ ,  ${}^{39}_{19}\text{K}$ Ans: c)

  2. Change in the number of
- a) an ion.
- b) an isotope.
- c) an isobar.
- d) another element.

- 3. The term nucleons refer to
- a) Protons and electrons
- b) only Neutrons
- c) electrons and neutrons
- d) Protons and neutrons

- 4. The number of protons, neutrons and electrons present respectively in
- a) 80, 80, 35
- b) 35, 55,80
- c) 35, 35, 80
- d) 35, 45, 35
- 5. The correct electronic configuration of potassium is
- a) 2,8,9
- b) 2,8,1
- c) 2,8,8,1
- d) 2,8,8,3

#### II. Fill in the Blanks:-

1. Calcium and Argon are examples of a pair of **Isobars** 

- 2. Total Number of electrons that can be accommodated in an orbit is given by 2n<sup>2</sup>
- 3. **Iodine 131** isotope is used in the treatment of goiter
- 4. The number of neutrons present in  ${}^{7}Li$  is  $\underline{4}$
- 5. The valency of Argon is **Zero**

#### III. Match the following

i)

- a) Dalton 1. Hydrogen atom model
- b) Thomson 2. Planetary model
- c) Rutherford 3. First atomic theory
- d) Neils Bohr 4. Plum pudding model
- 5. Discovery of neutrons

ii)

- a) Mass of proton
- 1) 1.6 X 10-19 C
- b) Mass of electron
- 2) -1.6 X 10-19 C
- c) Charge of electron
- 3) 9.31 X 10-28 g
- d) Charge of proton
- 4) 1.67 X 10-24 g

Ans: a -4, b -3, c -2, d -1

### **UNIT- 6. Living World of Plants -Plant Physiology**

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### I. Multiple Choice Questions

- 1. A big tree falls in a forest but its roots are still in contact with the soil. The branches of this fallen tree straight up. This happens in response to \_\_\_\_\_\_.
- a) water and light
- b) water and minerals
- c) gravity and water
- d) light and gravity

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2. The tropic movement that helps the climbing vines to find a suitable support is				
•				
a) phototropism b) geotropism c) thigmot	ropism	d) chemotropism		
3. The chemical reaction occurs during photosynth	esis is	·		
a) $CO_2$ is reduced and water is oxidized				
b) water is reduced and $CO_2$ is oxidized				
c) both $CO_2$ and water are oxidized				
d) both $CO_2$ and water are produced				
4. Transpiration is best defined as				
a) loss of water by the plant		TM		
b) evaporation of water from the aerial surface	s from the	e plant		
c) loss of water in the form of water vapour from the	ne undergr	ound parts of the plant		
body	00			
d) release of water from the plant into the atmosph	nere			
II. Fill in the blanks				
1. The shoot system grows upward in response to	Phototrop	<u>ism</u>		
2. <b>Root</b> is positively hydrotropic as well as positive	ely geotrop	ic.		
3. The green pigment present in the plant is <b>Chlore</b>	<u>ophyll</u>			
4. The minerals like nitrogen, potassium and phosp	horus, are	required in		
substantial quantity by the plants are called Macro	nutrients	1		
IV. Match column A with column B				
Column A Colu	mn B			
1. Roots growing downwards into soil	a. Positiv	e phototropism		
2. Shoots growing towards the light	b. Negati	ve geotropism		
3. Shoots growing upward c. Negative phototropism				
4. Roots growing downwards away from light d. Positive geotropism				
Ans: 1-d; 2-a; 3-b; 4-c				

### **EXERCISE 2**

### I. Multiple Choice Questions

1. The bending of	root of a plant in res	sponse to water is ca	lled
a) thigmonasty	b) phototropism	c) hydrotropism	d) photonasty
2. A growing seed	ling is kept in the da	ark room. A burning	candle is placed no
a few days. The to	p part of the seedlin	ng bends towards the	burning candle. T
example of	·		
a) chemotropism	b) thigmotropism	c) phototropism	d) geotropism
3. The root of the	plant is		
i) positively photo	otropic but negative	ly geotropic	TM
ii) positively geoti	ropic but negatively	phototropic	Va
iii) negatively pho	totropic but positiv	ely hydrotropic	Ollis
iv)negatively hydi	rotropic but positive	ely phototropic	
a) (i) and (ii)	b) (ii) and (iii)	c) (iii) and (iv)	d) (i) and (iv)
4. The plant part v	which exhibits negat	tive geotropism is	·
a) root <b>b) st</b>	em c) branch	d) leaves	
5. The non-directi	onal movement of a	plant part in respon	se to temperature
	91.		
a) thermotropism	b) Thermo	nasty c) chemotro	pism d) thigmor
6. Dandelion flow	ers open the petals i	n bright light during	the day time but
petals in dark at n	ight. This response	of Dandelion flowers	is called
a) geonasty	b) thigmonasty	c) chemonasty	d) photonasty
7. During photosy	nthesis plants exhal	e	
a) Carbon dioxide	b) oxygen	c) hydrogen	d) helium
8. Chlorophyll in a	leaf is required for		
a) photosynthesi	i <b>s</b> b) transpira	ation	
c) tropic moveme	nt d) nastic m	ovement	
9. A plant is kept i	n a dark room for al	oout 24 hours before	conducting any

experiment or	n photosynthesis in	order to	
a) remove chlo	orophyll from the le	eaf	
b) remove sta	arch from the leav	es	
c) ensure that	photosynthesis occ	urred	
d) to prove tra	anspiration		
10. Transpira	tion takes place thro	ough	
a) fruit	b) seed	c) flower	d) stomata
II. Fill in the l	olanks		
1. The solar tr	acking of sunflower	in accordance witl	n the path of sun is due to
<u>heliotropism</u>			Va
2. The respon	se of a plant part to	wards gravity is <b>ge</b>	<u>otropism</u>
3. When the le	eaves of a sensit <mark>ive</mark> j	plant are touched w	vith a finger, they fold up and
when light fad	es at dusk the petal	s <mark>of a</mark> Dandelion flo	wer close. These two plants
show <b>Thigmo</b>	nastic and photon	astic movements.	
4. Opening an	d closing of Moon fl	ower is not a tropis	sm because the movement in
this is <b>Non Di</b>	rectional Moveme	<u>nt</u>	
5. The raw ma	terials for photosyr	nthesis are <b>CO2,</b>	and <u><b>H₂O</b></u>
6. When iodin	e solution is added	for testing starch, p	oart of the leaf with <b>Starch</b> turn
blue-black col	our.		
7. In leaves, th	e food is stored in t	he form of <b>Starch</b>	
8. Plants may	inhale carbon dioxi	de for photosynthe	sis but need <u>oxygen</u> for their
living.			
9. Plants utiliz	e only <u>1%</u> of the a	bsorbed water for j	photosynthesis and the other
activities.			
10. Plants inh	ale and exhale conti	nuously through th	ne <u>Stomata</u>

### IV Match the following

S. No.	Column A	Column B	Column C
1.	Photonasty	a. Response to temperature	A. Tulipa sp
2.	Thigmonasty	b. Response to light	B. Mimosa pudica
3.	Thermonasty	c. Response to touch	C. Moon flower

Ans: 1-b-C; 2-c-B; 3-a-A

# n

UNIT- 7. Living	g World of Anir	nals - Diversity	in Living Organisn
	- Kingd	om Animalia	TW
I. Choose the cor	rect answer		-1
1. Which is not an i	nsect?		-WA
(a) House fly	(b) Bedbug	(c) Mosquito	(d) Spider
2. Find the group h	aving only <mark>marine n</mark>	nembers	
(a) Mollusca	(b) Porifera	(c) Coelenterata	(d) Echinodermata
3. Mesoglea is pres	ent in		
(a) Porifera	(b) Coelenterata	(c) Annelida	(d) Arthropoda
4. Dysentery is caus	sed by		
(a) Entamoeba	(b) Euglena	(c) Plasmodium	(d) Paramecium
5. Which one of the	following pairs is n	ot a poikilothermic	animal
(a) Fishes and Amp	hibians	(b) Amphibians an	d Aves
(c) Aves and Mam	mals	(d) Reptiles and ma	ammals
6. Identify the anim	nal having four chan	nbered heart	
(a) Lizard	(b) Snake	(c) Crocodile	(d) Calotes
7. Which is not a fe	ature of chordates		
(a) Green glands	(b) Sweat gla	ands	
(c) Sebaceous gland	d (d) Mammar	y gland	
8. The bilaterally symmetrical larvae which transform into radially symmetrical			

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adult is

(a) Bipinnaria	(b) Troch	ophore	(c) Tadpole	(d) Polyp
9. The animal without skull is				
(a) Acrania	(b) Acephalia	(c) Apteria	(d) Acoel	omate
10. Choose the con	rect terms relate	d for Hemichoro	date	
(a) Vermiform, u	nsegmented, tri	ploblastic, cilia	ıry feeders	
(b) Vermiform, se	gmented, triplobl	astic, ciliary fee	ders	
(c) Vermiform, un	segmented, diplo	blastic, ciliary fe	eeders	
(d) Vermiform, un	segmented, triplo	oblastic, filter fe	eders	
11. Hermaphrodit	e organisms are			
(a) Hydra, Tape w	orm, Earthworm,			TM
(b) Hydra, Tape	worm, Earthwor	m, Ascidian	adem	U
(c) Hydra, Tape w	orm, Earthworm,	Balanoglossus	nor	13
(d) Hydra, Tape w	orm, Ascaris, Ear	thworm	000	
12. Poikilothermio	c organisms <mark>are</mark>	AC	0	
(a) Fish, Frog, liza	rd, man	(b) Fish, Fro	og, lizard, cow	
(c) Fish, Frog, lizard, snake (d) Fish, Frog, lizard, crow				
13. Crop, gizzard a	and air sacs are se	een in		
(a) Fish	(b) Frog	(c) Bird	(d) Bat	
14. Excretory organ of tape worm is				
(a) Flame cells	(b) Neph	ıridia		
(c) Body surface (d) Solenocytes				
15. Tube like alimentary canal is found in				
(a) Hydra	(b) Earth worm	(c) Starfish	(d) Asca	ris
16. During ecdysis which of the following is shed off				
(a) Chitin	(b) Mantle	(c) Scales	(d) Oper	culum
17. Cephalization is related to				
(a) Head formati	on (b)	) Gut formation		
(c) Coelom format	tion (d)	) Gonad formati	on	
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#### II. Fill in the blanks

- **1.** The excretory opening of Porifera is **Osta or Osculum**
- **2.** The second largest phylum of animal kingdom is **Mollusca**
- 3. In India National deworming day is observed on February 10th in India
- 4. Myotomes are seen in Fishes
- **5.** The larvae of an amphibian is **Tadpole**
- **6.** In birds the air sacs communicate with **Bones**
- **7.** Placenta is the unique characteristic feature of **Mammals**
- 8. The binomial name of our National Bird is Pavo Cristatus
- **9.** Blue revolution is the rearing of **Fishes and prawns**
- academi **10.** In mammals testis are enclosed by **Scrotalsacs**

#### IV. Match the following

#### **PHYLUM**

**EXAMPLES** 

(A) Coelenterata

(i) Snail

(B) Platyhelminthes

(ii) Starfish

(C) Echinodermata

(iii) Tapeworm

(D) Mollusca

(iv) Hydra

Ans: A - iv; B - iii; C - ii; D- i

### UNIT- 8. Health and Hygiene - Food for living

#### I. Choose the best answer

1. The nutrient required in trace amounts to accomplish various body functions
--

- 7	C 1	11	
aı	Carbo	nva	rare
4	duibo	пуч	Iucc

b) Protein

c) Vitamin d) Fat

**2.** The physician who discovered that scurvy can be cured by ingestion of citrus

fruits is

a) James Lind

b) Louis Pasteur

c) Charles Darwin d) Isaac Newton

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3. The sprouting of onion and potatoes can be delayed by the process of				
a) Freezing	b) Irradiation	c) Salting	d) Canning	
<b>4.</b> Food & Adulteration Act was enacted by Government of India in the year				
a) 1964	b) 1954	c) 1950	d) 1963	
<b>5.</b> An internal factor responsible for spoilage of food is				
a) Wax coating b) Contaminated utensils				
c) Moisture content in food		d) Synthetic preservatives		

#### II. Fill in the blanks

- **1.** Deficiency diseases can be prevented by taking **balanced** diet.
- **2.** The process of affecting the natural composition and the quality of food substance is known as **Adulteration**

TM

- **3.** Vitamin D is called as **Sunshine** vitamin as it can be synthesised by the body from the rays of the sun.
- 4. Dehydration is based on the principle of removal of water
- **5.** Do not purchase food beyond the date of **Expiry**
- **6.** AGMARK is used to certify **Agriculture** and **Livestock** products in India.

### IV. Match the following

**1.** Calcium a. Muscular fatigue

**2.** Sodium b. Anaemia

**3.** Potassium c. Osteoporosis

4. Iron d. Goitre

**5.** Iodine e. Muscular cramps

Ans: 35124

### VII. Give abbreviations for the following food standards

1. ISI - Indian Standard institution

- 2. FPO -Fruit Process Order
- 3. AGMARK Agricultural Marking
- 4. FCI Food Corporation of India
- 5. FSSAI Food Safety and Standards Authority of India

TERM- II				
UNIT-1 Heat				
I. Choose the corr	ect answer:			
1. Calorie is the uni	it of		W	
a) heat	b) work	c) temperatu	re d) food	
2. SI unit of temper	rature is		any.	
a) Fahrenheit	b) joule	c) celsius	d) kelvin	
3. The Specific heat	capacity of water is	200		
a) 4200 Jkg <sup>-1</sup> K <sup>-1</sup>	b) 420 Jg <sup>-1</sup> K	c) 0.42 Jg <sup>-1</sup> K	d) 4.2 Jkg <sup>-1</sup> K <sup>-1</sup>	
4. Two cylindrical i	ods of same length	have the area of cro	ss section in the ratio 2:1.	
If both the rods are	made up of same m	naterial, which of the	em conduct heat faster?	
a) Both rods	b) Rod-2	c) Rod-1	d) None of them	
5. Two cylinders of equal height and radius are made of copper and aluminium.				
Which of them conducts heat faster?				
a) Copper rod	b) Aluminium rod	c) Both of the	em d) None of them	
6. In which mode of transfer of heat, molecules pass on heat energy to neighbouring				
molecules without actually moving from their positions?				
a) Radiation	b) Conduction	c) Convection	d) Both B and C	
7. A device in which the loss of heat due to conduction, convection and radiation is				
minimized is				
a) Solar cell	b) Solar cooker	c) Thermometer	d) Thermos flask	
II. Fill in the blank	KS:			

- 1. The fastest mode of heat transfer is **radiation**.
- 2. During day time, air blows from to sea to land.
- 3. Liquids and gases are generally **(poor conductor) Convection** conductors of heat.
- 4. The fied temperature at which matter changes state from solid to liquid is called **melting**

UNIT-2 Electric charge and electric current				
1. In current electricity, a p	ositive charge refers to,			
a) presence of electron	b) presence of proton			
c) absence of electron d) absence of proton				
2. Rubbing of comb with ha	ir A C			
a) creates electric charge	b) transfers electric charge			
c) either (a) or (b)	d) neither (a) nor (b)			
3. Electric field lines	from positive charge and in negative			
charge.	ine			
a) start; start <b>b) sta</b> r	t; end c) end: start d) end; end			
4. Potential near a charge is the measure of its to bring a positive charge at that				
point.				
a) force b) ability c) tendency <b>d) work</b>				
5. In an electrolyte the current is due to the flow of,				
a) electrons	b) positive ions			
c) both (a) and (b) d) neither (a) nor (b)				
6. Heating effect of current is called,				
a) Joule heating	) Coulomb heating			
c) voltage heating d) Ampere heating				
7. The following is not a safety device.				
a) fuse b) trip switch	c) ground connection d) wire			
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- 8. Electroplating is an example for
- a) heating effect **b) chemical effect** c) flowing effect d) magnetic effect
- 9. Resistance of a wire depends on,
- b) geometry c) nature of material d) all the above a) temperature
- 10. In India the frequency of alternating current is,
- a) 220 Hz
- b) 50 Hz
- c) 5 Hz
- d) 100 Hz

#### II. Match the following

- 1. Electric Charge
- (a) ohm
- 2. Potential difference
- (b) ampere
- 3. Electric field
- (c) coulomb
- 4. Resistance
- Academi (d) Newton per coulomb
- 5. Electric current
- (e) volt

Ans: cedab

#### III. Fill in the blanks

- 1. Electrons move from **high** potential to **low** potential.
- 2. The direction opposite to the movement of electron is called **conventional** current.
- 3. The e.m.f of a cell is analogues to **pump** of a pipe line.
- 4. The domestic electricity in India is an ac with a frequency of **50** Hz.
- 5. Trip switch is a **electro mechanical** safety device.

### **UNIT-3 Magnetism and Electromagnetism**

- I. Choose the correct answer.
- 1. Which of the following converts electrical energy into mechanical energy.
- a) motor
- b) battery
- c) generator
- d) switch

2. An electric generator converts

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- a) electrical energy into mechanical energy
- b) mechanical energy into heat energy
- c) electrical energy into electrical energy
- d) mechanical energy into electrical energy.
- 3. The part of the AC generator that passes the current from the armature coil to the external circuit is
- a) field magnet
- b) split rings
- c) slip rings
- d) brushes

- 4. Transformer works on
- a) AC only

b) DC only

c) both AC and DC

- d) Ac nor effectively than DC
  etre
  eter<sup>2</sup>
- 5. The unit of magnetic flux density is
- a) Weber

- b) weber/metre
- c) weber/meter<sup>2</sup>
- d) weber. meter2

#### II. Fill in the blanks.

- 1. The SI Unit of magnetic field induction is **Tesla**
- 2. No force acts in a current carrying conductor when it is **Parallel** to the magnetic field.
- 3. Devices which is used to convert high alternating current to low alternating current set up transformer.
- 4. An electric motor converts electrical energy in to mechanical energy.
- 5. A device for producing electric current is  $\underline{\textbf{Generator}}$

### III. Match the following.

- 1. Magnetic material
- (a) Oersted
- 2. Non-magnetic material
- (b) iron
- 3. Current and magnetism
- (c) induction
- 4. Electromagnetic induction
- (d) wood

5. Electric generator

(e) Faraday

Ans: bdcea

#### **UNIT-4** Periodic classification of elements

I. Choose	tne	corre	ct	an	SW	er
-----------	-----	-------	----	----	----	----

are the periodic functions of their

c) law of octaves	d) Pauli's Exclusion principle
a) Modern periodic law	b) Hund's rule
1. If Dobereiner is related with 'law of	triads', then Newlands is related with

- a) atomic numbers
- b) atomic masses

2. Modern periodic law states that the physical and chemical properties of elements

- c) similarities
- d) anomalies
- 3. Elements in the modern periodic table are arranged in groups and periods.
- a) 7, 18
- b) 18,7
- c) 17,8
- d) 8, 17
- 4. The increasing order of the energy of subshells is
- a) s>p>d>f
- b) s<p<d<f
- c) s<p<f<d
- d) p < s < d < f
- 5. If the electronic configuration of an element is 1s2 2s2 2p6 3s2 3p1, then it will occupy block of the periodic table
- a) s
- b) p
- c) d
- d) f

#### II. Fill in the blanks

- 1. In Dobereiner's triads, the atomic weight of the middle element is the **Average** of the atomic masses of 1st and 3rd elements.
- 2. Noble gases belong to  $\underline{\mathbf{18}^{th}}$  group of the periodic table.
- 3. The basis of the classifications proposed by Dobereiner, Newlands and Mendeleev was **Atomic mass**
- 4. B , Si, Ge and As are the examples of  $\underline{\boldsymbol{metalloids}}$

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5. Example for liquid metal is <b>mercury</b>				
III. Match the following				
1. Triads	-Newlands			
2. Alkali metal	-Calcium			
3. Law of octaves	-Henry Moseley			
4. Alkaline earth metal	- Sodium			
5. Modern Periodic Law	-Dobereiner			
Ans: 5 4 1 2 3				
	TW			
	UNIT- 5 Chemical bonding			
I. Choose the correct an	swer: ctrons in carbon is c) 3 d) 5			
1. Number of valence electrons in carbon is				
a) 2 <b>b) 4</b> c) 3 d) 5				
2. Sodium having atomic number 11, ready to electron/ electrons				
to attain the nearest Noble gas electronic configuration.				
a) gain one b) ga	in two			
c) lose one d) los	se two			
3. Atoms having 1,2 or 3	electrons in its valence shell will readily form			
a) Cation b) and	on			
4. The element that woul	d form anion by gaining electrons in a chemical reaction is			
a) Potassium b) Ca	lcium <b>c) Fluorine</b> d) Iron			
5. Bond formed between	a metal and non metal atom is usually			
a) ionic bond	b) covalent bond c) Coordinate bond			
6 compound	ls have high melting and boiling points.			
a) Covalent b) Co	ordinate c) Ionic			
7. Covalent bond is formed by				

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a) transfer of electrons b) sharing of electrons				
c) sharing a pair of electrons				
8. Oxidising agents are also called as because they remove electrons form				
other substances.				
a) electron donors b) electron acceptors				
9. Elements with stable electronic configurations have eight electrons in their				
valence shell. They are				
a) Halogens b) Metals				
c) Noble gases d) non metals				
TIM				
UNIT-6 Acids, Bases and Salts				
I. Choose the correct answer  1. $Zn + 2 HCl \rightarrow ZnCl2 + \uparrow (H_2, O_2, CO_2)$				
1. $Zn + 2 HCl \rightarrow ZnCl2 +\uparrow (H_2, O_2, CO_2)$				
2. Apple contains malic acid. Orange contains (citric acid, ascorbic acid)				
3. Acids in plants and animals are organic acids. Whereas Acids in rocks and				
minerals are (Inorganic acids, Weak acids)				
4. Acids turn blue litmus paper to (Green, <b>Red</b> , Orange)				
5. Since metal carbonate and metal bicarbonate are basic they react with acids to				
give salt and water with the liberation of ( $NO_2$ , $SO_2$ , $CO_2$ )				
6. pH value of human blood is (7.0, <b>7.4,</b> 7.6)				
7. The nature of the tooth paste commonly used is in nature (acidic, <b>basic</b> ,				
neutral)				
8. You are given pure water to test the pH value using pH paper. It shows				
colour (White, black, green)				

9. The hydrated salt of copper sulphate has \_\_\_\_\_ colour (Red, White, **Blue**)

### **UNIT - 7 Organization Of Tissues**

orti , organization or results				
I. Choose the correct answer:				
1. A meristematic tissue consists of				
a) Immature cells which are in a state of division and growth				
b) Mature cells				
c) Non-living cells				
d) Sclerenchyma cells				
2. The tissue composed of living thin walled polyhedral cell is				
a) Parenchyma b) Collenchyma b) Sclerenchyma d) None of above				
3. The fibres consists of				
a) Parenchyma b) Sclerenchyma				
c) Collenchyma d) None of above				
4. Chlorenchyma is known to develop in the				
a) Parenchyma b) Sclerenchyma c) Collenchyma d) None of above 4. Chlorenchyma is known to develop in the a) cytoplasm of chlorella b) mysolium of a green mould such as aspersillus				
b) mycelium of a green mould such as aspergillus				
c) spore capsule of moss				
d) pollen tube of pinus.				
5. Companion cells are closely associated with				
a) sieve elements. b) vessel elements				
c) Trichomes d) guard cells.				
6. Which of the following is a complex tissue.				
a) parenchyma b) collenchyma c) xylem d) sclerenchyma				
7. Aerenchyma is found in				
a) Epiphytes b) hydrophytes c) halophytes d) xerophytes				
8. Two long bones of the hand are dislocated in a person met who with an accident.				
Which among the following may be the possible reason.				
a) Tendon injury b) Break of skeletal muscle				
c) Ligament tear d) Rupture of Areolar tissue				

9. Unstraited muscles are found	in			
a) Blood vessels	b) Gastrointestinal tract			
c) Urinary bladder	d) All of these			
10. Which of the following is no	t found in a neuron?			
a) Sarcolemma b) Dendrite	c) Neurolemma	d) Axon		
11. Long, unbranched multinucl	eated cells are			
a) Striated muscle cells	b) Smooth muscles			
c) Cardiac muscles	d) None of the above.			
12. White fibres of connective ti	ssue are made up of			
a) Elastin b) Reticular	fibres c) Collagen	d) Myosin		
13. Brush bordered epithelium	is found in	Vac		
a) Stomach b) Small inte	estine c) Fallopian tube	d) Trachea		
14. Smooth muscles occur in	5	10.		
a) Uterus b) Artery	c) vein	d) All of the above		
15. Which muscles act involuntary?				
(i) Striated muscles	(ii) Smooth muscles			
(iii) Cardiac muscles (iv) Skeletal muscles				
a) (i) and (ii) <b>b) (ii</b>	and (iii) c) (iii) and (i	v) d) (i) and (iv)		
16. Nerve cell does not contains				
a) Axon b) Nerve end	dings c) Tendons	d) Dendrites		
17. Tendon connects				
a) Cartilage with muscles	b) Bone with muscles			
c) Ligament with muscles d) Bone with bone.				
18. In a certain type of cell division the diploid number of chromosome is reduced to				
half. This kind of division occurs	s in			
a) Testis	b) Ovary			
c) Both ovary and testis	d) All body cells.			

#### II. Fill in the blanks:

- 1. The **Complex** tissues are made up of more than one type of cells and these wok together as a unit.
- 2. **Sclerenchyma** tissues provides mechanical support to organs.
- 3. Parenchyma, collenchyma, Sclerenchyma are Simple tissue type of tissue
- 4. **Xylem** and **phloem** are complex tissues.
- 5. Epithelial cells with cilia are found in \_\_\_\_\_ of our body.

Ans: trachea of wind-pipe / bronchioles of respiratory tract/ kidney tubules / fallopian tubes of oviducts.

- 6. Lining of small intestine is made up of **Columnar epithelium tissue**
- 7. The two types of skeletal connective tissues are **Cartilage** and **bone**
- 8. Humans have 46 chromosomes. Their sperms and eggs will have <u>23</u> chromosomes each.
- 9. During pairing of chromosomes in meiosis, the **homologous** chromosomes come to lie side by side.

### III. a) Match the following

- A. Sclereids -1. Cholrenchyma
- B. Chloroplast 2. Sclerenchyma
- C. Simple tissue 3. Collenchyma
- D. Companion cell 4. Xylem
- E. Trachieds 5. Phloem

Ans: A-2, B-1, C-3, D-5, E-4

### b) Match the following

Column I	Column II	Column III
A. Columnar Epithelium	1. Absorption	1. Anchoring of muscle
B. Bones	2. Axon	2. Dendrites
C. Neurons	3. Body framework	3. Secretion

- D. Areolar Tissue 4. Ground substance 4. Ciliated E. Tongue 5. Trachea 5. Fibroblasts F. Epithelium 6. Striated muscle 6. Visceral tissue
  - Ans: A-5-4, B-3-1, C-2-2, D-4-5, E-6-6, F-1-c

	UNII - 8 Orga	n Systems in Ai	ıımaı	S
I. Choose the corr	rect answer			
1. Which of the following	lowing is not a saliv	ary gland?		
a) sublingual	b) lachrymal	c) sub maxil	lary	d) parotid
2. Stomach of man	mainly digests			TIVI
a) carbohydrates	b) proteins	c) fat	d) suc	crose
3. To prevent the $\epsilon$	entry of food into th	e trachea, the openin	ng is gu	arded by
a) epiglottis	b) glottis	c) hard pala	te	d) soft palate
4. Bile helps in the	e digestion of	ACO.		
a) proteins	b) sugar	c) fats	d) car	bohydrates
5. Excretion mean	s	6		
a) taking in oxyger	n from the air and gi	iving out carbon dio	xide	
b) disposal of harn	nful germs and wor	ms from our body		
c) distribution of d	ligested food to the	body tissues throug	h blood	d
d) removal of nit	rogenous wastes g	enerated in the bo	dy	
6. The structural a	nd functional unit o	f the kidney is		
a) villi	b) liver	c) nephron		d) ureter
7. Which one of the	e following substan	ce is not a constituer	nt of sv	veat?
a) urea	b) protein	c) water	d) sal	t
8. The common pa	ssage meant for tra	nsporting urine and	sperm	s in male is
a) ureter	b) urethra	c) vas deferens	d) scr	otum
9. Which of the following	lowing is not a part	of female reproduct	ive sys	tem?
a) Ovary	b) uterus	c) testes	d) fall	opian tube
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#### II. Fill in the blanks:

- 1. The opening of the stomach into the intestine is called **pylorus**
- 2. The muscular and sensory organ which helps in mixing the food with saliva is tongue
- 3. Bile, secreted by liver is stored temporarily in **Gall bladder**
- 4. The longest part of alimentary canal is **small intestine**
- 5. Organs which are concerned with the formation, storage and elimination of urine constitute the Excretory system
- 6. The human body functions normally at a temperature of about 37
- 7. In the process of urine formation, maximum amount of water from the glomerular filtrate is reabsorbed in the **Proximal convoluted tubule**
- Acaden 8. The largest cell in the human body of a female is **ovum**

#### III. Match the following

Elimination Organ A. Skin 1. Urine 2. Sweat B. Lungs C. Intestine 3. Carbon dioxide 4. Undigested food D. Kidneys

Ans: A-2, B-3, C-4, D-1

### TERM - III

### UNIT - 1 - Fluids

- I. Choose the correct answer
- 1. The size of an air bubble rising up in water
- a) decreases

b) increases

c) remains same

- d) may increase or decrease
- Clouds float in atmosphere because of their low

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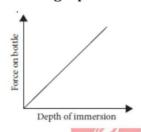
- a) density
- b) pressure
- c) velocity
- d) mass

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- 3. In a pressure cooker, the food is cooked faster because
- a) increased pressure lowers the boiling point

### b) increased pressure raises the boiling point

- c) decreased pressure raises the boiling point
- d) increased pressure lowers the melting point
- 4. An empty plastic bottle closed with an airtight stopper is pushed down into a bucket filled with water. As the bottle is pushed down, there is an increasing force on the bottom as shown in graph. This is because



- a) more volume of liquid is dispaced
- b) more weight of liquid is displaced
- c) pressure increases with depth
- d) all the above

### II. Fill in the blanks:

- 1. In a fluid, buoyant force exists because pressure at the **Bottom** of an object is greater than the pressure at the top.
- 2. The weight of the body immersed in a liquid appears to be **less** than its actual weight
- 3. The instrument used to measure atmospheric pressure is **barometer**
- 4. The magnitude of buoyant force acting on an object immersed in a liquid depends on **density** of the liquid.
- 5. A drinking straw works on the existence of **Atmospheric pressure**

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#### III. Match the following

A. Density

- 1. hρg

B. 1 gwt

2. Milk

C. Pascal's law

mass/volume

D. Pressure exerted by a fluid

4. Pressure

E. Lactometer

5.980 dyne

Ans: A-3, B-5, C-4, D-1, E-2

### UNIT - 2 Sound

#### I. Choose the correct answer

1. Which of the following vibrates when a musical note is produced by the cymbals in a orchestra?

a) stretched strings

b) stretched membranes

c) air columns

d) metal plates

- 2. Sound travels in air:
- a) if there is no moisture in the atmosphere.
- b) if particles of medium travel from one place to another.
- c) if both particles as well as disturbance move from one place to another.

### d) if disturbance moves.

- 3. A musical instrument is producing continuous note. This note cannot be heard by a person having a normal hearing range. This note must then be passing through
- a) wax
- b) vacuum
- c) water
- d) empty vessel

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- 4. If the speed of a wave is 340 m s-1 and its frequency is 1700 Hz, then wavelength  $\lambda$  for this wave in cm will be
- a) 34
- b) 20
- c) 15
- d) 0.2
- 5. Which of the following statement best describes frequency?
- a) the number of complete vibrations per second.

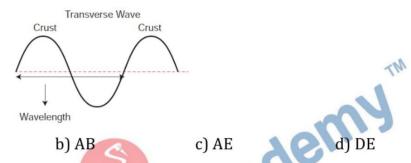
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- b) the distance travelled by a wave per second.
- c) the distance between one crest of wave and the next one.
- d) the maximum disturbance caused by a wave.
- The maximum speed of vibrations which produces audible sound will be in 6.
- a) seawater
- **b) ground glass** c) dry air
- d) Human blood
- 7. In the sound wave produced by a vibrating tuning fork as shown in the diagram, half the wave length is represented by:



- The sound waves travel faster 8.
- a) in liquids

a) BD

- b) in gases
- c) in solids
- d) in vacuum
- When the pitch of note by a harmonium is lowered, then the wave length of 9. the note
- a) first decreases and then increases
- b) decreases
- c) remains the same

### d) increases

- 10. The speeds of sound in four different media are given below. Which of the following is the most likely speed in m s-1 with which the two under water whales in a sea can talk to each other when separated by a large distance?
- a) 5170
- b) 1280
- c) 340

- d) 1530
- Which of the following can produce longitudinal waves as well as transverse 11. waves under different conditions?
- **a) TV transmitter** b) tuning fork
- c) water
- d) slinky

The Best Coaching Institute For TNPSC, Bank, SSC, Police Exam, TET Exam, Railways Exams **8939 144 344** 33 www.weshineacademy.com 12. The velocities of sound waves in four media P, Q, R and S are 18,00 km/h, 900 km/h, 0 km/h, and 1200 km/h respectively. Which could be a liquid medium?

a) R

b) Q

c) P

d) S

#### II. Fill in the blanks:

- 1. Vibration of object produces **Sound**
- 2. Sound is a **mechanical** wave and needs a material medium to travel.
- 3. Number of vibrations produced in one second is **frequency**
- 4. The velocity of sound in solid is **greater** than the velocity of sound in air.
- 5. Loudness is proportional to the square of the **amplitude**
- 6. A sound wave has a frequency of 4 k hz and wavelength 2 m. Then the velocity of sound is **8000 ms**<sup>-1</sup>
- 7. **Stethoscope** is a medical instrument used for listening to sounds produced in the body
- 8. The repeated reflection that results in persistence of sound is called **reverberation**
- 9. Ultrasounds can also be used to detect cracks and flows in **Metal blocks**
- 10. In the inner ear, the pressure variations are turned into electrical signals by the **cochlea**

### III. Match the following

A. Tuning fork -1. The point where density of air is maximum

B. Sound -2. Maximum displacement from the equilibrium position

C. Compressions -3. The sound whose frequency is greater than 20,000 Hz

D. Amplitude -4. Longitudinal wave

E. Ultasonics 5. Production of sound

Ans: A-5, B-4, C-1, D-2, E-3

### **UNIT - 3 Universe**

I.	Choose the	correct answer				
1.	Which of the following statements is correct?					
A. The	There are eight planets in our Solar System.					
B. Exc	ept Mars, all	other planets revol	ve around the Sun i	n elliptical orbits		
a) A c	only	b) B only	c) Both A and B	d) None		
2.	Who propos	sed the heliocentric	model of the univer	se?		
a) Tyo	cho Brahe	b) Ni	colaus Copernicus			
c) Pto	lemy	d) Ar	chimedes			
3.	Which of the	e following is not a p	part of outer solar sy	ystem?		
a) Me	ercury	b) Saturn	c) Uranus	d) Neptune		
4.	Ceres is a			6.11		
a) Me	teor	b) Star	c) Planet	d) Asteroid		
5.	The period of	of revolution of plan	et A around the Sur	n is 8 times that of planet B.		
How	many times is	s the distance of pla	net A as great as tha	it of planet B?		
a) 4		b) 5	c) 2	d) 3		
6.	The Big Ban	g occurredy	ears ago.			
a) 13	.7 billion	b) 15 million	c) 15 billion	d) 20 million		
	M					
II.	Fill in the b	lanks:				
1.	The speed o	f Sun in km/s is <b>250</b>	Okm/s			
2.	The rotational period of the Sun near its poles is 36 days					
3.	India's first satellite is <b>Aryabhatta</b>					
4.	The third law of Kepler is also known as the Law of Harmonies					
5.	<b>Triton</b> is the only moon in the solar system that moves in the opposite					
direct	tion to the dir	rection in which its <sub>l</sub>	planet spins			
6.	The number	of planets in our So	olar System is <b>eight</b>			

#### III. Match the following 1. 17.2 hours A. Jupiter B. Mercury -2. 10.7 hours C. Venus 3.87.97 days D. Saturn 4. 9 hours 55 min E. Mars 5. 243 days 6.87.97 days 7. 24 hours 37 min Ans: A-4, B-3, C-5, D-2, E-7 **UNIT - 4 Carbon And Its Compounds** I. Choose the correct answer 1. A phenomenon in which an element exists in different modification in same physical state is called a) Isomerism b) Allotropy c) Catenation d) Crystallinity Number of free electron(s) in each carbon of graphite is 2. a) one b) Two c) Three d) Four The carbon atoms in fullerene are arranged in mixed 3. a) Tetragon and Pentagon b) Pentagon and Hexagon c) Hexagon and Heptagon d) Heptagon and Octagon 4. Carbon forms large number of organic compounds due to c) Tetravalency a) Allotropy b) Isomerism d) Catenation 5. Diamond is not a good conductor of electricity because b) it has no free electron a) it is very hard c) its structure is uniform d) it is insoluble in water 6. Which of the following does not contain double bond

7. Which of the following is highly toxic?

b) C<sub>2</sub>H<sub>4</sub>

a) CO<sub>2</sub>

c) HCl

d)  $O_2$ 

a) Ca	rbon dioxide		b) Carbon monoxide			
c) Ca	Calcium carbonate d) Sodium bicarbonate					
8.	8. Raagav brings his lunch every day to school in a plastic container which has					
resin	code numbe	r 5. The conta	iner is made of			
a) Po	lystyrene	b) PVC	c) Polypropylene	e d) LDPE		
9.	Plastics ma	ade of Polyca	rbonate (PC) and Acryl	onitrile Butadiene Styrene		
(ABS	) are made of	f resin code				
a) 2		b) 5	c) 6	<b>d)</b> 7		
10.	Which of th	ne following p	lastic items are banned b	y the Government of Tamil		
Nadu	as of 1st Jan	uary 2019?		TM		
a) Pla	stic sheets		b) Plastic tea cups	Va		
c) Pla	istic water pa	ackets	d) All the above	16Wiz		
11.	Graphite is	used as lubr <mark>ic</mark>	cant in machines because			
a) it i	s good condu	ictor of electri	city			
b) it	is made of s	lippery layer:	s and has high melting p	ooint		
c) it l	as high dens	ity	ne.			
d) it i	s strong and	soft				
12.	The lead pe	encil contains				
a) Gr	aphite	b) Diamond	c) Lead	d) Charcoal		
13.	Graphene is	s one atom thi	ck layer of carbon obtaine	ed from		
a) Dia	amond	b) Fullerene	c) Graphite	d) Gas Carbon		
14.	Plastic resi	n codes are sh	nown as three chasing arr	ows in a with		
a number in the middle or letters (an acronym of that plastic type).						
a) Lo	go	b) Recycling	g symbol c) Square	d) Triangle		
15.	The legal	measures to	prevent plastic pollution	on come under the		
Prote	ection Act 198	38.				
a) Fo	rest	b) Wildlife	c) Environment	d) Human Rights		

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#### Fill in the blanks: II.

- 1. Antoine Lavoisier named carbon.
- 2. Buckminster Fullerene contains 60 carbon atoms.
- 3. Compounds with same molecular formula and different structural formula are knows as **Isomers**
- Different methods of formation of carbon is the main reason for its 4. Catenation
- 5. There are **Seven** plastic resin codes.

#### III. Match the following

A. Alkyne

Academi 1. Bucky Ball

- B. Andre Geim
- 2. Oxidation

 $C. C_{60}$ 

- 3. Graphene
- D. Thermocol -
- 4. Triple bond
- E. Burning -
- 5. Polystyrene

Ans: A-4, B-3, C-1, D-5, E-2

### UNIT - 5 Applied Chemistry

#### Choosse the correct answer I.

- One Nanometre is 1.
- a) 10<sup>-7</sup> metre
- b) 10<sup>-8</sup> metre
- c) 10<sup>-6</sup> metre
- d) 10<sup>-9</sup> metre
- 2. The antibiotic Penicillin is obtained from
- a) plant
- b) microorganism
- c) animal
- d) sunlight

- 3. 1% solution of Iodoform is used as
- a) antipyretic
- b) antimalarial
- c) antiseptic
- d) ant
- 4. The cathode of an electrochemical reaction involves \_\_\_\_\_
- a) oxidation
- b) reduction
- c) neutralisation
- d) catenation
- 5. The age of a dead animal can be determined by using an isotope of \_\_\_\_\_

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a)	carbon
6.	Wh

b) iodine

c) phosphorous

d) oxygen

ich of the following does not contain natural dyes?

a) Potato

b) Beetroot

c) Carrot

d) Turmeric

7. This type of food protect us from deficiency diseases.

a) Carbohydrates **b) Vitamins** 

c) Proteins

d) Fats

8. Radiochemistry deals with

a) oxidants

b) batteries

c) isotopes

d) nanoparticles

The groups responsible for the colour of an organic compound is called 9.

a) isotopes

b) auxochrome

c) chromogen

d) chromophore

10. Chlorinated hydrocarbons are used as

a) fertilizers

b) pesticides

c) food colourants d) preservatives

#### II. Fill in the blanks:

- Galvanic cell is an electrochemical cell which converts electrical energy into 1. chemical change (Reaction).
- Painkiller drugs are called **Analgesics** 2.
- Aspirin is an **Antipyretics** 3.
- Nitrogen, Phosphorus and Potassium are macronutrients required for plant 4. growth.
- 5. **Ninhydrin** is a chemical used in finger print analysis.

#### III. Match the following

A. Antipyretics

-1. Large surface area

B. Corrosion prevention

- 2. Iodine-131

C. Hyperthyroidism

- 3. Fever

D. Nanoparticle

- 4. Cancer cell identification

E. Nanorobotics

- 5. Electroplating

Ans: A-3, B-5, C-2, D-1, E-4

#### 6 Environmental Science

	UNII - C	) EIIV	ironnie	intai Sci	ence		
I. (	Choose the correct ans	wer					
1.	All the factors of biosphere which affect the ability of organisms to survive						
and rep	oroduce are called as						
a) biolo	ogical factors		b) abiot	ic factors			
c) bioti	c factors	d) phy	sical fact	ors			
2.	The ice sheets from the	e north	and so	uth poles	and the	icecaps	on the
mounta	ains, get converted	into	water	vapour	through	the	process
a) evap	oration b) condensa	ition	c) sublii	nation	d) infiltra	tion	
3. I	Free living soil bacteria	such a	s Pseudo	monas sp	. are resp	onsible	
	process in the niti	ogen cy	cle.		00		
a) amm	process in the nitronification	b) nitr	ogen fixa	ition			
c) znitr	rification	d) der	nitrificat	ion			
	Γhe atmospheric carbon						process
of		M	3				
a) pho	tosynthesis b) as:	similatio	on c)	respiratio	n d)	decom	position
5. I	ncreased amount of		in the	atmosphe	ere, results	in gre	enhouse
	nd global warming						
a) carb	on monoxide	b) sulյ	phur diox	ride			
c) nitro	gen dioxide		d) carbo	n dioxide	•		
6. Which of the following is not an adaptation of hydrophytes?							
a) poorly developed root system							
b) reduced plant body							
c) water storing parenchymatous tissues							
d) finel	y divided submerged lea	ives					
7. I	n some xerophytes, le	aves ai	re modif	ied into s	spines as	an ad	aptation

- a) to reduce transpiration rate
- b) to store water
- c) to reduce consumption of water

#### d) all of the above

- 8. Identify the incorrect statement with respect to adaptations of earthworm.
- a) Earthworm has a stream lined body with no antennae or fins.
- b) Each segment of earthworm has setae.
- c) Many earthworms become inactive in a process called hibernation, during winter season.
- d) Earthworms remain in its burrow during day time, to avoid sunlight.
- Which of the following is one of the strategies to conserve water?
- a) Water recycling
- b) Using large overhead water tanks
- c) Increasing the number of bore wells
- d) Watering the plants using hose
- Specific constituents such as nitrogen, phosphorus, suspended solids and 10. heavy metals found in the wastewater are removed during \_\_\_\_\_ treatment of water recycling process.
- a) primary
- b) secondary
- c) tertiary

Acao

d) none of the above

#### II. Match the following

Microorganism Role player

A. Nitrogen fixation 1. Nitrosomonas

B. Ammonification 2. Azotobacter

C. Nitrification 3. Psseudomonas species

D. Denitrification 4. Putrefying bacteria

Ans: A-2, B-4, C-1, D-3

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# **UNIT-7 Economic Biology**

I.	Choose the	correct ans	wer				
1.	The production and management of fish is called						
a) Pis	sciculture	b) Sericultu	ire c)	Aquaculture	d) Monoculture		
2.	Which one o	f the following	ng is not a	n exotic breed o	of cow?		
a) Jer	sey	b) Holstein-	Friesan	c) Sahiwal	d) Brown Swiss		
3.	Which one o	f the following	ng is an It	alian species of	honey bee?		
a) <i>Ap</i>	is mellifera	b) Apis dors	sata c)	Apis florae	d) Apis cerana		
4.	Which of the	e following ar	e Indian	cattle?	2)		
i) Bos	indicus		ii) Bos a	lomesticus	TM		
iii) <i>Bo</i>	os bubalis		iv) Bos	vulgaris	Marie		
a) i ar	nd ii	b) i and iii	(c)	ii and iii	d) iii and iv		
5.	Which one o	f the following	ng is not a	n Indian major	carp?		
a) Ro	hu	b) Catla	(c)	Mrigal	d) Singhara		
6.	Drones in th	e honey bee	colony ar	e formed from			
a) un	fertilized eg	g	b.	fertilized egg			
c) par	thenogenesis	CI	d) both	b and c			
7.	Which of the	e following is	an high n	nilk yielding var	iety of cow?		
a) Ho	lstein- Fries	an	b	) Dorset			
c) Sah	niwal		d) Red S	indhi			
8.	Which one o	f the following	ng is refer	ed as red worm	s?		
a) Eu	drilus fetida		b) Eudri	lus eugieniae			
c) Per	rionyx excavat	tes	d) Lamp	ito mauritii.			
9. Which Indian variety of honey bee is commonly used for apiculture?							
a. Api	s dorsata		b. Apis f	lorea			
c. Api	s mellifera		d. <i>Apis i</i>	ndica			
10.	Mehsana is a	a breed of					
a. Cov	v <b>b. Bu</b>	ffalo c. Go	at d.	Sheep			
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11.	1. Binomial name of Nilavembu is					
a) Leucas aspera b) Andrographis paniculata						
c) Cro	otolaria junce	а	d) Cassia fistula			
12.		_ is the method of g	rowing plants with	out soil.		
a) Ho	rticulture	b) Hydroponics	c) Pomology	d) None of these.		
13.	The symbio	tic association of fu	ngi and vascular pla	nts is		
a) Lic	hen	b) Rhizobium	c) Mycorhizae	d) Azotobacter		
14.	The plant be	ody of mushroom is				
a) Spa	awn	b) Mycelium	c) Leaf	d) All of these		
				TM		
II.	Fill in the b	olanks:		Vac		
1.	Rhizobium	is a nodulating type	e of micro organism	associating symbiotically		
with	the root of le	gume plants.		10.		
2.	Quinine drug is obtained from Cinchona officinalis Cinjona bark					
3.	Carica papaya leaf can cure <b>Dengue</b> disease .					
4.	Ganoderma lucidum, is commonly known as Lingzhi mushroom.					
5.	Apiculture is the maintenance of bee colonies in modern hives.					
6.	Vermicompost is a type of soil made by Earthworm and microorganisms.					
7. <b>Marine water aquaculture</b> refers to the culture of prawns, pearl and edible						
oysters.						
8.	The fertile female in a honey bee hive is <b>Queen honey bee</b>					
9.	. Formic acid is a preservative in honey.					
10.	0. <b>Poly culture / composite fish culture</b> is the method of culturing different					
variety of fish in a water body.						
11.	Pasturage is related to Availability of flowers to bees for nectar and pollen					

grains

#### III. Match the following

Column A Column B

A. Lobster - 1. Marine fish

B. Catla - 2. Pearl

C. Sea bass - 3. Shell fish

D. Oysters - 4. Paddy

E. Pokkali - 5. Fin fish

F. Pleurotus sps - 6. Psoriosis

G. Sarpagandha - 7. Oyster mushroom

H. Olericulture - 8. Reserpine

I. Wrighta tinctoria - 9. Vegetable farming

Ans: A-3, B-5, C-1, D-2, E-4, F-7, G-8, H-9, I-6

## **UNIT-8 World Of Microbes**

c) bacteria

- Choose the correct answer
- 1. Mycology is the branch of biology that deals with the study of
- a) algaeb) virusc) 2. The major constituent of vinegar is
- a) citric acid b) acetic acid c) oxalic acid d)hydrochloric acid
- 3. Bacteria involved in curd formation is
- a) Lactobacillus acidophilus b) Nitosomonas
- c) Bacillus ramous d) none of the above
- 4. Which of the following is transmitted through air?
- a) Tuberculosis b) Meningitis c) Typhoid d) Cholera
- 5. The most fatal form of Malaria is caused by
- a) Plasmodium ovale b) Plasmodium falciparum
- c) Plasmodium malariae d) Plasmodium vivax
- 6. One of the means of indirect transmission of a disease is

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d) fungi

a) snee	ezing	b) coughing	c) ve	ectors	d) droplet infection	
7.	Syphilis is c	caused by				
a) Trep	ponema pa	llidum	b) Leptosp	ira		
c) Past	eurella		d) Vibrio ch	olerae		
8. Mosquito borne viral diseases are						
a) mala	aria and yel	low fever	b) dengue	and chikun	gunya	
c) filar	iasis and ty	phus	d) kala aza	r and dipther	ria	
9.	Diptheria a	ffects the				
a) Lung	gs	b) Throat	c) Bl	ood	d) Liver	
10.	Which one	of the followir	ng is a pair o	f viral diseas	e?	
a) Filar	riasis, AIDS		b) Commo	n cold, AIDS	Va	
c) Dyse	entry, Comr	non cold	d) T	phoid, Tube	rculosis	
11.	Which of th	e following <mark>di</mark>	sease is spre	ead by anima	l bite?	
a) Pnei	umonia	b) Tubercul	osis c) Ch	nolera	d) Rabies	
12.	The	orimary organ	infected du	ring tubercu	losis is	
a) bone	e marrow	b) intestine	c) sp	leen	d) lungs	
13.	Micro	obes that gene	erally enter t	the body thro	ough nose are likely to affect	
a) gut		b) lungs	c) liv	ver	d) lymph nodes	
14.	The	organ affected	by jaundice	is		
a) live	r	b) lungs	c) ki	dney	d) brain	
15.	Seve	rity of disease	symptom d	epends upon		
a) num	ber of micr	robes	b) target or	gan		
c) both	n a and b		d) none of	these.		
16. Poliomyelitis virus which causes infantile paralysis enters the body through						
a) skin		b) mouth a	nd nose	c) ears	d) eye	
II.	Fill in the l	olanks:				
1.	1. Nitrifying bacteria and fungi (or) decompsing break down organic matter					
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and animal waste into ammonia.

- 2. The hyphae with branches form a complex network called **Azotobacter**
- 3. First antibiotic Penicillin was developed by Alexander Fleming
- 4. Baker's yeast is **Saccharomyces**
- 5. The two non symbiotic nitrogen fixing bacteria are **Nitrosomonas** and

#### **Azotobacter**

- 6. Typhoid fever is caused by **Salmonella typhi**
- 7. H1N1 virus causes **Swineflue**
- 8. **Aedes egypti** is a vector of viral disease dengue.
- 9. **BCG(Bacillus Calmette Guerin)** vaccine gives considerable protection against tuberculosis.
- 10. Cholera is caused by Vibrio cholera & malaria is caused by Plasmodium sp

#### III. Match the following

- A. Swine flu 1. Human papilloma virus
- B. Genital warts 2. Human immunodeficiency virus
- C. AIDS 3. Mycobacterium
- D. Tuberculosis 4. Influeuza virus HINI

Ans: A-4, B-1, C-2, D-3

### IV. Expand the following.

- 1. ORS Oral Rehydration Solution
- 2. **HIV** Human Immunodeficiency Virus
- 3. **DPT** Diptheria Pertussis Tetanus
- 4. WHO World Health Organisation
- 5. **BCG** Bacillus Calmette Guerin