

### PHYSICS

- When the frequency of an electromagnetic wave and ultrasonic wave are same, then  
(A) Their wavelengths should be same  
**(B) Wavelength of electromagnetic wave will be more**  
(C) Wavelength of ultrasonic wave will be more  
(D) Wavelength of electromagnetic wave will be less
- A convex lens of focal length 40 cm is in contact with a concave lens of the focal length 25 cm. The power of the combination is  
**(A) -1.5 D** (B) -6.5 D  
(C) +1.5 D (D) +6.5 D
- Which of the following has the least wavelength?  
**(A) X-rays** (B) Microwaves  
(C) Ultra Violet rays (D) Radio waves
- Ozone layer of atmosphere absorbs  
(A) Visible radiations (B) Infrared radiations  
**(C) Ultraviolet radiations** (D) Radio waves
- A radio active element “X” with a half life of 2 hours decay giving a stable element “Y”. After a time of t hours the ratio of atoms is 1 : 7 then, the value of  
(A) 4 hours **(B) 6 hours** (C) 5 hours (D) 14 hours
- A particle executes S.H.M. The acceleration of the particle is maximum  
**(A) at extreme position**  
(B) at mean position  
(C) midway between mean and extreme position  
(D) acceleration is same at all position.
- The velocity of sound is maximum in  
(A) Water (B) Air  
**(C) Metal** (D) Vacuum
- Identify the incorrect statement from the following in respect of seismic waves.  
(A) Primary waves pass through liquid and solid  
**(B) Primary waves are highly destructive**  
(C) Secondary waves cannot pass through liquid  
(D) Surface waves are along waves

# TNPSC – GROUP 2A

## GENERAL STUDIES - 2017 (ENGLISH)

9. Two coils are placed close to each other. The mutual inductance of the pair of coils depends upon
- (A) the materials of wires of the coils
  - (B) the currents in the two coils
  - (C) the rates at which currents are changing in the two coils
  - (D) relative position and orientation of the two coils**

### CHEMISTRY

10. The aqueous solution of potassium chloride is
- (A) a weak electrolyte
  - (B) a strong electrolyte**
  - (C) a non-electrolyte
  - (D) initially weak and then become a strong electrolyte
11. An acid is a substance that can lose a proton is called
- (A) Arrhenius concept
  - (B) Bronsted-Lowry concept**
  - (C) Lewis concept
  - (D) Usanovich concept
12. The valence electron of the impurity atom that is to be added to germanium crystal so as to make it a *n*-type semiconductor is
- (A) 6
  - (B) 5**
  - (C) 4
  - (D) 3
13. The compounds formed when hydrogen combines with p-block elements are called
- (A) Ionic hydrides
  - (B) Molecular hydrides**
  - (C) Metallic hydrides
  - (D) Polynuclear hydrides
14. Among the following salts, which is a salt of weak acid and strong base
- (A)  $\text{NH}_4\text{Cl}$
  - (B)  $\text{CH}_3\text{COONH}_4$
  - (C) NaCN**
  - (D) NaCl

### ZOOLOGY

15. Which of the following is correct?  
The term systole refers to
- |                                  |                                  |
|----------------------------------|----------------------------------|
| 1. Phase of contraction of lungs | 2. Phase of relaxation of lungs  |
| 3. Phase of relaxation of heart  | 4. Phase of contraction of heart |
- (A) 1 and 2 only                      (B) 2 and 3 only                      (C) 2 only                      **(D) 4 only**

# TNPSC – GROUP 2A

## GENERAL STUDIES - 2017 (ENGLISH)

16. Choose the correct answer from the codes given below.

Assertion (A) : The Pyramid of grassland ecosystem is upright.

Reason (R) : The producers are maximum in number and consumers are least in number.

**(A) (A) and (R) are correct**

(B) (A) alone is correct

(C) (R) alone is correct

(D) (A) is correct (R) is not the reason for (A)

17. Which cytoplasmic organelle is associated with 'acrosome' formation in the spermatozoa of animals?

(A) Lysosome

(B) Chloroplast

**(C) Golgi complex**

(D) Chromosome

18. Deficiency of folic acid leads to

**(A) Anaemia**

(B) Mental disorder

(C) Scurvy

(D) Night blindness

19. Which of the following is a social insect?

(A) Mosquito

(B) Locust

(C) Bedbug

**(D) Termites**

20. Which one of the following is NOT correctly matched?

List I

List II

Hormone

Secreted by

1. Testosterone

- Interstitial cells

2. Prolactin

- Adrenal medulla

3. Estrogen

- Ovary

4. Progesterone

- Corpus luteum

(A) 1 only

**(B) 2 only**

(C) 3 and 2

(D) 4 only

21. Which enzyme catalyze the conversion of Pyruvic Acid into Acetyl co-enzyme A in the respiratory process?

(A) Pyruvic acid oxidase

(B) Pyruvate synthetase

(C) Aconitase

**(D) Pyruvate Dehydrogenase**

# TNPSC – GROUP 2A

## GENERAL STUDIES - 2017 (ENGLISH)

22. Aestivation is seen in

- (A) **Amphibians** (B) Chimpanzee  
(C) Salmon (D) Squirrels

23. Match the following :

Disease	Test
(a) Leprosy	1. Glycosylated haemoglobin test
(b) Typhoid fever	2. Lepromin test
(c) Tuberculosis	3. Widal test
(d) Diabetes	4. Mantoux test

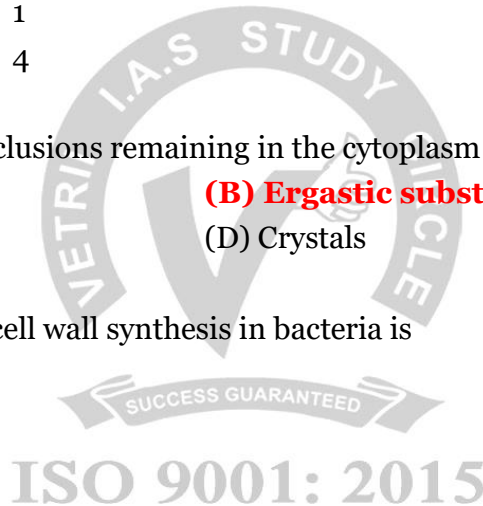
	(a)	(b)	(c)	(d)
(A)	1	3	4	2
(B)	<b>2</b>	<b>3</b>	<b>4</b>	<b>1</b>
(C)	2	4	3	1
(D)	3	2	1	4

24. Metabolically inactive cell inclusions remaining in the cytoplasm is called

- (A) Reserve materials (B) **Ergastic substances**  
(C) Secretory substances (D) Crystals

25. The antibiotic that prevents cell wall synthesis in bacteria is

- (A) Rifampicin  
(B) Streptomycin  
(C) **Penicillin**  
(D) Anthracyclin



### BOTANY

26. The root nodules of Casuarina which are capable of symbiotic nitrogen fixation contain the microbe

- (A) Rhizobium (B) **Frankia** (C) Anabaena (D) Azotobacter

27. Match the following algal pigments with their colour:

Pigment	Colour
(a) Chlorophyll	1. Orange
(b) Xanthophyll	2. Green
(c) Carotenoid	3. Blue green
(d) Phycocyanin	4. Yellow

# TNPSC – GROUP 2A

## GENERAL STUDIES - 2017 (ENGLISH)

	(a)	(b)	(c)	(d)
(A)	2	4	1	3
(B)	2	4	3	1
(C)	1	2	3	4
(D)	4	1	3	2

28. Choose the micronutrient needed for plant growth  
(A) Oxygen (B) Hydrogen  
(C) Nitrogen (D) Zinc
29. A feature common to nucleus, chloroplast and mitochondria is the presence of  
(A) Lamella (B) Cristae  
(C) Nucleic acid (D) Nucleolus
30. Hormone secreted in root tip during the formation of nodule is  
(A) Auxin (B) Cytokinin  
(C) Zymase (D) Lipase

