

# Question Papers

ExamCode: GK\_GRP II\_09112014

1. The penetrating power is maximum for -

- 1)  $\alpha$  rays  
3)  $\gamma$  rays  
2)  $\beta$  rays  
4) Cathode rays

2. According to Kepler's third law, the square of the revolution of a planet around the sun is :

- 1) directly proportional to cube of the mean distance between Sun and planet  
2) directly proportional to square of the mean distance between Sun and planet  
3) Inversely proportional to cube of the mean distance between Sun and planet  
4) Inversely proportional to square of the mean distance between Sun and planet

3. The door of a running refrigerator inside a room is left open. Mark the correct statement.

- 1) The room will be cooled slightly  
2) The room will be warmed up gradually  
3) The room will be cooled to the temperature inside the refrigerator  
4) The temperature of the room will remain unaffected.

4. Assume a narrow tunnel is dug between two diametrically opposite points of the earth. The motion of the particle as seen from the earth is : I. In a straight line II. Simple harmonic Which of the following answer is correct?

- 1) I only is true  
2) II only is true  
3) Both I and II are true  
4) Neither I nor II are true

5. Who discovered the Photoelectric effect?

- 1) Hertz  
2) Einstein  
3) Huygens  
4) Faraday

6. What element is used to fabricate semiconductor transistors?

- 1) Iron  
2) Copper  
3) Germanium  
4) Radium

7. What effect is produced when two simple harmonic waves of the same amplitude, frequency and time period travel in opposite directions in a straight line?

- 1) Electromagnetic waves  
2) Stationary waves  
3) Beats  
4) Ultrasonic waves




8. Isotropic glass material has refractive index :

- 1) Possesses one value in one direction  
2) Possesses different values in the perpendicular direction  
3) Possesses different values in mutually perpendicular directions  
4) Possesses one value in all directions

9.

Match the following.				
List - I		List - II		
a) Friction		1) Membrane		
b) Bending		2) Lubricant		
c) Gravitation		3) Beam		
d) Osmosis		4) Mass		
	a	b	c	d
A.	3	4	2	1
<input checked="" type="checkbox"/> B.	2	3	4	1
C.	1	3	2	4
D.	3	2	1	4

10.

Match List I with List II				
List - I		List - II		
a) $2d \sin \theta = n\lambda$		1) Bragg's law		
b) 		2) Zener Diode		
c) 		3) p-n junction diode		
d) 		4) Transistor		
	a	b	c	d
A.	3	2	4	1
B.	2	3	4	1
C.	3	4	2	1
<input checked="" type="checkbox"/> D.	1	3	2	4

11. Global warming takes place due to :

Absorption of IR radiation emitted by earth's surface by  $\text{CO}_2$  and other Green House gases

2) Acid rain

3) Photosynthesis

4) Fullerenes

12. W.F.Libby was awarded Nobel Prize for Chemistry in 1960 because he developed -

$^{14}\text{C}$  dating technique

3) Manufacture of artificial diamonds

2) Chromatography technique and analysis

4) Method for prevention of pollution

13. Advantages of urea as a fertilizer are listed below excepting in one statement. Identify that wrong statement.

1) It has the highest nitrogen content

3)  $\text{CO}_2$  is used for the production of urea

2) Can be used for all types of soils

 Contains lot of potassium

14. Select the false statement in the following.

1) Urea is very soluble in water

 Urea has the lowest Nitrogen content

3) Urea is not so stable as other nitrogenous fertilizers

4) Cost of production of urea is low

15. Metallic Sodium may be obtained from molten Sodium Chloride by :

- 1) Electrolysis  
2) Neutralization  
3) Ionisation  
4) Hydrolysis

16. Which group has one element that behaves as a typical non metal while the rest are active metals?

- 1) Group I A  
2) Group IV A  
3) Group V A  
4) Group VI A

17. Calculate the  $[H^+]$  in a solution which shows a pH of 11.70.

- 1) 2.3 M  
2) 11.7 M  
 3)  $2.0 \times 10^{-12}$  M  
4)  $5.0 \times 10^{-12}$  M

18. What type of solution can be obtained when solid Silver Chloride is (AgCl) dissolved in pure water?

- 1) Acidic  
2) Basic  
3) Amphoteric  
 4) Neutral

19. Pick out the correct oxidation number of Nitrogen in  $HNO_2$

- 1) +3  
2) +2  
3) +4  
4) -2

20. Match the species with the correct oxidation states of Mn in each species.

Species	Oxidation state
a) $MnO_2$	1) +7
b) $MnO_4^{2-}$	2) +3
c) $KMnO_4$	3) +4
d) $Mn_2O_3$	4) +6

	a	b	c	d
<input checked="" type="checkbox"/> A	3	4	1	2
B.	2	3	4	1
C.	1	2	3	4
D.	4	1	2	3

21. Which of the following statements is TRUE? I. RNA tumour viruses are usually Lytic II. In 1911, Ross discovered that tumour is bacterial borne III. The gene responsible for causing cancer is Oncogene IV. The malignant tumours show high rate of glycolysis

- 1) III  
2) II & III  
3) IV  
4) I & IV

22. Red data book was published by

- 1) ICNU  
2) INUC  
3) ICUN  
 4) IUCN