

NEET ELECTROMAGNETIC WAVES — ELECTROMAGNETIC SPECTRUM AND USES (RADIO TO GAMMA RAYS) — PYQS

Max. Marks: 48

Questions: 12

Section A (MCQ) — 12 questions

- Q.1** The following table presents the part of the electromagnetic spectrum and their corresponding major applications. [RE-NEET (UG) 2026]

Part of the electromagnetic spectrum		Applications	
P.	Microwave	I.	For purifying the water
Q.	UV rays	II.	For warming the food
R.	Gamma rays	III.	For AM and FM communication systems
S.	Radio wave	IV.	For treating the Cancer cells

- (1) P-II, Q-IV, R-III, S-I (2) P-I, Q-II, R-III, S-IV
 (3) P-I, Q-IV, R-II, S-III (4) P-II, Q-I, R-IV, S-III

Scan or tap for the full solution



- Q.2** The electromagnetic radiation which has the smallest wavelength are [RE-NEET (UG) 2024]

- (1) X-rays (2) Gamma rays
 (3) Ultraviolet rays (4) Microwaves

Scan or tap for the full solution



- Q.3** Match List - I with List - II

List - I (Electromagnetic waves)		List - II (Wavelength)	
a.	AM radio waves	i.	10^{-10} m
b.	Microwaves	ii.	10^2 m
c.	Infrared radiations	iii.	10^{-2} m
d.	X-rays	iv.	10^{-4} m

Choose the correct answer from the options given below [NEET (UG) 2022]

- (1) (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)
 (2) (a) - (iii), (b) - (ii), (c) - (i), (d) - (iv)
 (3) (a) - (iii), (b) - (iv), (c) - (ii), (d) - (i)
 (4) (a) - (ii), (b) - (iii), (c) - (iv), (d) - (i)

Scan or tap for the full solution



- Q.4** Which colour of the light has the longest wavelength? [NEET (UG) 2019]

- (1) blue (2) violet (3) red (4) green

Scan or tap for the full solution



- Q.5** The energy of the em waves is of the order of 15 keV. To which part of the spectrum does it belong? [AIPMT 2015]

- (1) Ultraviolet rays (2) γ -rays
 (3) X-rays (4) Infra-red rays

Scan or tap for the full solution



- Q.6** The condition under which a microwave oven heats up a food item containing water molecules most efficiently is [NEET 2013]

- (1) Microwaves are heat waves, so always produce heating.
 (2) Infra-red waves produce heating in a microwave oven.
 (3) The frequency of the microwaves must match the resonant frequency of the water molecules.
 (4) The frequency of the microwaves has no relation with natural frequency of water molecules.

Scan or tap for the full solution



- Q.7** The decreasing order of wavelength of infrared, microwave, ultraviolet and gamma rays is [AIPMT 2011 (Prelims)]

- (1) microwave, infrared, ultraviolet, gamma rays
 (2) gamma rays, ultraviolet, infrared, microwaves
 (3) microwaves, gamma rays, infrared, ultraviolet
 (4) infrared, microwave, ultraviolet, gamma rays

Scan or tap for the full solution



- Q.8** If λ_v , λ_x and λ_m represent the wavelengths of visible light, X-rays and microwaves respectively, then [AIPMT 2005]

- (1) $\lambda_m > \lambda_x > \lambda_v$ (2) $\lambda_m > \lambda_v > \lambda_x$
 (3) $\lambda_v > \lambda_x > \lambda_m$ (4) $\lambda_v > \lambda_m > \lambda_x$

Scan or tap for the full solution



Q.9 We consider the radiation emitted by the human body. Which one of the following statements is true? [AIPMT 2003]

- (1) The radiation emitted is in the infra-red region
- (2) The radiation emitted only during the day
- (3) The radiation is emitted during the summers and absorbed during the winters
- (4) The radiation emitted lies in the ultraviolet region and hence is not visible

Scan or tap for the full solution



Q.10 What is the cause of greenhouse effect? [AIPMT 2002]

- (1) infra-red rays
- (2) ultra violet rays
- (3) X-rays
- (4) radio waves.

Scan or tap for the full solution



Q.11 Biological importance of ozone layer is [AIPMT 2001]

- (1) it stops ultraviolet rays
- (2) ozone layer reduces greenhouse effect
- (3) ozone layer reflects radio waves
- (4) ozone layer controls O_2/H_2 ratio in atmosphere

Scan or tap for the full solution



Q.12 The frequency order for γ -rays (a), X-rays (b), UV rays (c) is [AIPMT 2000]

- (1) $b > a > c$
- (2) $a > b > c$
- (3) $c > b > a$
- (4) $a > c > b$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	4	2	4	3	3	3	1	2	1	1	1
Ques.	12										
Ans.	2										