PYQSide PYQSide.com — free PYQs with solutions Powered by TestBlink

NEET WAVES — BEATS — PYQS

Max. Marks: 36 **Questions:** 9

Section A (MCQ) — 9 questions

Q.1 In a guitar, two strings A and B made of same material are slightly out of tune and produce beats of frequency 6 Hz. When tension in B is slightly decreased, the beat frequency increases. If the frequency of A is 530 Hz, the original frequency of B will be : [NEET (UG) 2020]

(1) 524 Hz (2) 536 Hz (3) 537 Hz (4) 523 Hz

Scan or tap for the full solution

Q.2 Three sound waves of equal amplitudes have frequencies (n − 1), n, (n + 1). They superimpose to give beats. The number of beats produced per second will be [NEET 2016 (Phase 2)]

(1) 1 (2) 4 (3) 3 (4) 2

Scan or tap for the full solution

Q.3 A source of unknown frequency gives 4 beats/s when sounded with a source of known frequency 250 Hz. The second harmonic of the source of unknown frequency gives five beats per second, when sounded with a source of frequency 513 Hz. The unknown frequency is [NEET 2013]

(1) 240 Hz (2) 260 Hz (3) 254 Hz (4) 246 Hz

Scan or tap for the full solution

Q.4 Two sources of sound placed close to each other, are emitting progressive waves given by

$y_1 = 4\sin 600\pi t$ and $y_2 = 5\sin 608\pi t$

An observer located near these two sources of sound will hear [AIPMT 2012 (Prelims)]

(1) 4 beats per second with intensity ratio 25 : 16 between waxing and waning.

(2) 8 beats per second with intensity ratio 25 : 16 between waxing and waning.

(3) 8 beats per second with intensity ratio 81 : 1 between waxing and waning.

(4) 4 beats per second with intensity ratio 81 : 1 between waxing and waning.

Scan or tap for the full solution

Q.5 Two identical piano wires, kept under the same tension T have a fundamental frequency of 600 Hz. The fractional increase in the tension of one of the wires which will lead to occurrence of 6 beats/s when both the wires oscillate together would be [AIPMT 2011 (Mains)]

(1) 0.01 (2) 0.02 (3) 0.03 (4) 0.04

Scan or tap for the full solution

Q.6 A tuning fork of frequency 512 Hz makes 4 beats per second with the vibrating string of a piano. The beat frequency decreases to 2 beats per sec when the tension in the piano string is slightly increased. The frequency of the piano string before increasing the tension was [AIPMT 2010 (Prelims)]

(1) 510 Hz (2) 514 Hz (3) 516 Hz (4) 508 Hz

Scan or tap for the full solution

Q.7 Each of the two strings of length 51.6 cm and 49.1 cm are tensioned separately by 20 N force. Mass per unit length of both the strings is same and equal to 1 g/m. When both the strings vibrate simultaneously the number of beats is [AIPMT 2009]

(1) 7 (2) 8 (3) 3 (4) 5

Scan or tap for the full solution

Q.8 Two vibrating tuning forks produce waves given by $y_1 = 4\sin 500\pi t$ and $y_2 = 2\sin 506\pi t$. Number of beats produced per minute is [AIPMT 2006]

(1) 360 (2) 180 (3) 60 (4) 3

Scan or tap for the full solution

Q.9 Two sound waves with wavelengths 5.0 m and 5.5 m respectively, each propagate in a gas with velocity 330 m/s. We expect the following number of beats per second. [AIPMT 2006]

(1) 6 (2) 12 (3) 0 (4) 1

Scan or tap for the full solution

ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9		
Ans.	**1**	**4**	**3**	**4**	**2**	**4**	**1**	**2**	**1**		