

**GREEN LAWNS HIGH SCHOOL  
FINAL EXAMINATION YEAR 2020**

**SUBJECT: PHYSICS**

**TIME: 1 ½ HOURS**

**CLASS: VIII**

**MARKS: 80**

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**Note:** - You will not be allowed to write during the first 10 minutes. This time is to be spent in reading the question paper. The time given at the head of this paper is the time allowed for writing the answers.

Attempt all questions from Section A and Section B. Each Section is of 40 marks. Show the necessary steps in numericals.

**SECTION – A ( 40 Marks) Compulsory**

Q.1. A. Name the following.

[10]

- 1) The SI unit of work.
- 2) In case of a spherical mirror, a point through which when a ray of light passes, is reflected along its own path.
- 3) A sound of single frequency.
- 4) The method used in joining steel girders, boiler plates etc.
- 5) The type of energy of molecules which increases during thermal expansion.
- 6) The unit of power used in mechanical engineering.
- 7) The temperature on the kelvin scale at which the molecular motion completely ceases.
- 8) The spherical mirror whose focus is virtual.
- 9) The physical quantity whose SI unit hertz.
- 10) The capacity of doing work.

Q.2. A. State whether the following statements are true or false. If false correct the statement.

[5]

- 1) The speed of sound is less in solids as compared to liquids & gases.
- 2) A liquid changes into vapour by boiling at all temperatures.
- 3) The medium is said to be rarer if the speed of light in it increases.
- 4) The concave mirror is used as a vigilance mirror.
- 5) In a piano, pitch is decreased by plucking a thicker string.

B) Distinguish between the following pairs on the basis of what is given in the brackets.

[5]

- 1) Real image - Virtual image (way of formation)
- 2) Boiling – Evaporation (Speed of the process)
- 3) Superficial Expansion – Cubical Expansion (meaning)
- 4) Potential Energy – Kinetic Energy (which form it can be changed to)
- 5) Energy – Power (SI unit)

- Q.3. A) Draw a ray diagram using a suitable mirror to show its use in Search light [2]  
B) State any two factors affecting linear expansion of electric wires. [2]  
C) A man raises a load of 3750 gm to a vertical height of 2.5 m. Calculate the work done by him if force of gravity on 1 kg mass is 10N. [2]  
D) If the measure of angle between the normal & the reflected ray is  $58^\circ$ , then [4]  
1) Find the angle between the normal & the incident ray.  
2) State the law which you have considered while calculating the above angle.  
3) Find the angle between the incident ray & the reflected ray.  
4) Under which condition the angle between the incident ray & the reflected ray will be zero?
- Q.4. A) Give scientific reasons. [5]  
1) To move the hands of the watch its spring needs to be wound up  
2) A concave mirror is used in a solar cooker.  
3) Sometimes after the rains, you see a rainbow in the sky just opposite to the Sun.  
4) Generally all solids, liquids & gases expand on heating.  
5) The type of sound produced at Rocket take off is considered as noise.

- B) Define. [5]  
1) Refraction of light  
2) Longitudinal wave  
3) Radius of curvature  
4) Mechanical energy  
5) Work

**SECTION – B ( 40 Marks) – Compulsory**

- Q.5. A) Give a relationship between the focal length & the radius of curvature of a spherical mirror. Find the radius of curvature of a spherical mirror if its focal length is 12.5 cm. [3]  
B) State any three factors affecting the loudness of sound. Also write how do these factors affect the loudness. [3]  
C) Study the displacement – distance graph of a sound wave given below. Identify [4] as well as define x & y.

