TOPIC : GS CLASS 1

extension

System of Measurement.

3) Mks system.
- Length → metre
- Mass → kg.
- time sec.

→ 2) CGS unit → French. → Length → cm.
- Mass → Gram.
- time → Sec.

2) FPS system → British
- length → Foot
- Mass → Pound.
- time → sec.

(4) SI →
System International.
- length → m.
- Mass → kg.
- time → sec.

1) तलका मध्ये कुन प्रणाली SI एकाइ प्रणालीसँग मेल खान्छ? / Q)Which of the following system matches with the Sl unit system?
a) FPS b) MKS c) CGS d) American system

2) तलका मध्ये कुन तापक्रमको एकाइ हो?/ Which of the following is a unit of temperature?
a) Degree b) Meter c) Second d) Fahrenheit (e) kelvin (k)

3) I भोल्टमीटरले के मापन गर्छ? / What does a Voltmeter measure?
a) Voltage b) Current c) Length

4) ठोस कोणहरू मापन गर्ने एकाइ के हो? / What is the unit of measurement of solid angles?

a) Steradians b) Degrees c) Radians d) Grades

5) प्रकाशको तीव्रता नाप्ने एकाइ के हो? / What is the unit for measuring intensity of light?

Distance → distance → Amount of substance.

a) Candela b) Lightyear c) Meter d) Mol

S.I.

6) SI को पूरा रुप के हो?

a) Standard International b) System International c) Scientific International d) Science International

7) SI प्रणाली अनुसार भौतिक परिमाणहरू नाप्ने आधार एकाइहरूको संख्या हो / The number of base units for measuring physical quantities according to the SI system are

a) 1 b) 10 c) 7 d) 8

7 base unit.

8) चुम्बकीय तीव्रता को एकाइ के हो? / what is the unit of magnetic field intensity?

A)Weber B) coulomb C) Tesla D)volt

X ↓ charge → P.I

9) ध्वनि आवाजको तीव्रता नाप्ने SI एकाइ के हो? / what is the si unit for measuring intensity of sound or noise?

A) decibel B) dioptre C) parsec D) none

↳ distance.

10) ""parsec" " नाप्ने एकाइ हो / "parsec" is the unit for measuring
A) atomic radius B) astronomical distances C) mass D) none

* ↓ Stars.

11) प्रकाश वर्ष के हो?/ what is light year? → distance.

Speed of light (c) = 3×10^8 m/s. → vaccum.

It is the distance travelled by the light in vaccum in 1year.

1 light year = 9.46×10^{15} meter.

12) Name two supplementary units?

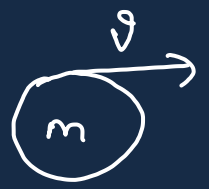
Radian → Plane angle

Steradian → Solid angles.

13) मोमेन्टम को एकाई तल मध्ये कुन को समान हुन्छ / momentum has the same unit as that of

A) force B) impulse C) work D) power

force = Newton.
work = Joule
power = watt.



$p = m \times v$.

14) विद्युतीय प्रतिरोधको SI एकाइ के हो? / what is the SI unit of electrical resistance?

Property of material.

A) volt B) ohm C) ampere D) joule

$[V = iR.]$

V → P.D
i → current.

15) 1 माइल = 1.6 km? / 1 mile = ____ km ?

A) 0.8 किमी B) 2 किमी C) 1.6 किमी D) 10 किमी

1.609 km.

speed of light → miles.

3×10^8 m/s.

16) ताप ऊर्जाको si एकाइ के हो? / what is the si unit of heat energy?
A) calories B) volt C) joule D) coulomb

K.E.

17) चापको SI एकाइ हो ___ / si unit of pressure is Pascal.

18) सवारी साधनले यात्रा गरेको दुरी नाप्न प्रयोग हुने यन्त्रको नाम दिनुहोस् - / name the device used to measure the distance travelled by the vehicle → Odometer.

19) अवशोषित ताप मापन गर्न प्रयोग हुने यन्त्रको नाम दिनुहोस्? / name the device used to measure the absorbed or evolved heat? → ~~Calorimeter~~ . Calorimeter .

20) हावाको गति नाप्न प्रयोग हुने यन्त्रको नाम दिनुहोस्? / name the device used to measure the speed of the wind? → Anemometer .

21) सर्किटमा विद्युत् प्रवाह नाप्न प्रयोग हुने यन्त्रको नाम दिनुहोस्? / name the device used to measure current in the circuit? → Ammeter , ~~or~~ galvanometer .

22) सवारी साधनको गति नाप्न प्रयोग हुने यन्त्रको नाम बताउनुहोस् ? / name the instrument which is used to measure the speed of the vehicle? → Speedometer.

23) AF signal मापन गर्न प्रयोग गरिने उपकरणको नाम दिनुहो / name the instrument which is used to measure AF signal level and noise → Psophometer.

24) भूकम्पको तीव्रता नाप्ने यन्त्र कुन हो? / instrument which is used to measure intensity of earthquake? Seismometer.

25) 1 lunar month = 28 days or 4 weeks.

** Unitless physical Quantity or Dimensionless " " eg: Refractive Index, Poission ratio, Specific Gravity.

General Studies → 85 → 25 Q.

- General Science
  - [Physics] → Units and measurement.
  - Chemistry
  - Biology.
- Humanities.
  - History.
  - Polity

Units and Measurement.

↳ **Physical Quantities** :- Anything which is measurable by an instrument and used to define laws of physics.

eg: Mass, Time, Area, speed, velocity, Force, momentum, electric current, etc.

[P.Q = numerical value × unit.]

e.g. P.Q = 150 kg.
(150 ↓ num, kg ↓ unit)

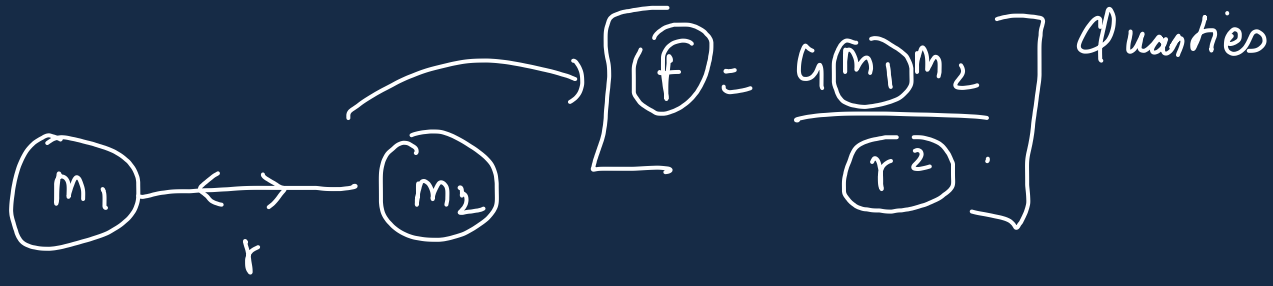
Force = 15 N
(N ↓ unit)

unit → Standard for measuring things

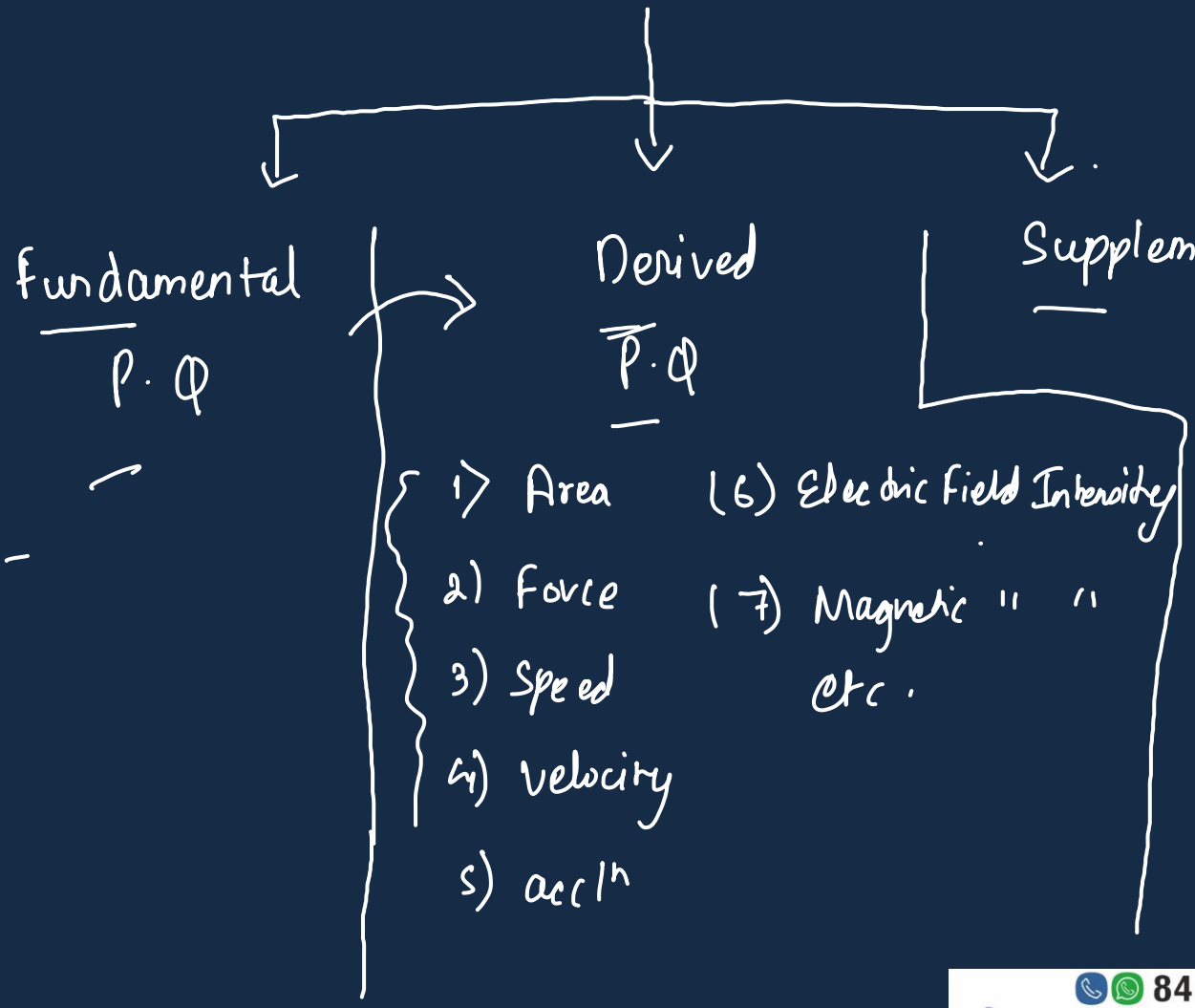
Mass → kg. → Standard unit.

150 kg. → Mass.

» Universal law of Gravitation. ← → Physical Quantities



Physical Quantities.



Fundamental P.Q :-

		Symbol.	Unit
1)	Length	L	meter.
2)	Mass	m	kg.
3)	time	t	Sec
4)	temperature	'θ'	kelvin.
5)	electric current	i	Ampere.
6)	Luminous intensity		candella.
7)	Amount of substance		Mole

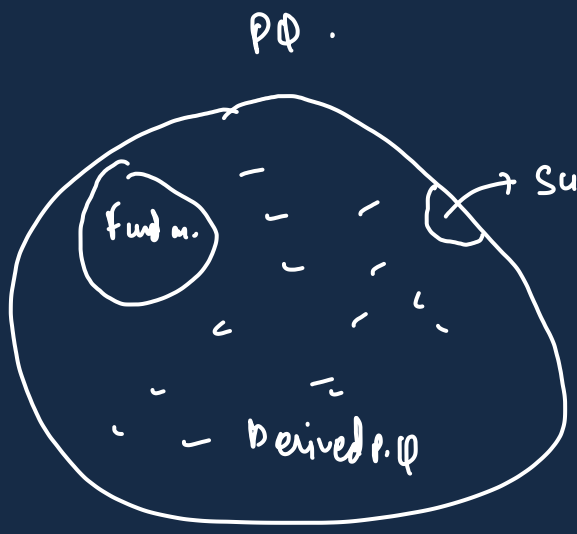
Supplimentary P.Q :— 2

(i) Plane Angle (θ) → Radian — unit.

(ii) Solid Angle

→ solid Angle.

↳ unit → Steradian.



6

Velocity = 5m/s. West (magnitude + direction.)

Length = 5m. (magnitude.)

Force = (5N) → direction. (magnitude +)

x

1) Scalar quantities

Magnitude

1) length = 5m.
2) work. 5J
3) time. 5sec.

2) Vector

Magnitude + direction.

1) Force.
2) Velocity.
3) Accln.

3) tensor quantities.

↳ Multidirection eg: pressure