

# P. P. SAVANI UNIVERSITY

First Semester of B.Sc. Examination

Feb.-March-2020

SSFS1010-AAPPLIED PHYSICS

24.02.2020, Monday

Time: 12:30 p.m. to 03:00 p.m.

Maximum Marks: 60

## Section-A

- Q.1 Very Short Questions (attempt all questions) (10)**
- 1.1 Objectives (10MCQ Compulsory-0.5 mark each) 05**
- 1.1a** Heat and work are  
A Point function  
B System properties  
C Path function  
D Extensive properties
- 1.1b** Work done in a free expansion process is  
A +Ve  
B - Ve  
C Zero  
D Minimum
- 1.1c** A volume basis air contains following parts of oxygen  
A 21  
B 23  
C 25  
D 77
- 1.1d** For Boil's law if we plot graph between inverse of volume and pressure the result is  
A Curve line  
B Circular line  
C Straight-line  
D Elliptical
- 1.1e** Boyle's law is used only for  
A Non ideal gases  
B Lint gases  
C Ideal gases  
D Heavy gases
- 1.1f** The study of the flow of heat or any other from of energy in to or out of a system undergoing physical or chemical change is called  
A Thermochemistry  
B Thermo kinetics  
C Thermo dynamics  
D Thermochemical studies
- 1.1g** The third law of thermodynamics states that in the limit  $T \rightarrow 0$   
A  $G=0$   
B  $H=0$   
C  $V=0$   
D  $S=0$

1.1h Which is the correct unit for entropy?

- A KJ mol
- B Jk-1
- C JK-1 mol-1
- D KJ mol-1

1.1i Which of the following device convert chemical energy into electrical energy?

- A Battery
- B Loud speaker
- C Solar cell
- D Electric motor

1.1j Joule is a unit of

- A Work
- B Power
- C Momentum
- D None of the above

1.2 Five Questions (Definitions-1 mark each)

1.2a Density

1.2b Viscosity

1.2c Ductility

1.2d Elasticity

1.2e Stress

05

Q.2 Short Notes (attempt any two- 3 marks each)

A What is x-ray and its application

B How are x-ray waves used?

C What is change in internal energy of go's

06

Q.3 Explain in detail (attempt any two-7 marks each)

A what is radioactivity and its types?

B Why is radioactive dangerous?

C How does x-ray radiation affect the body?

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Section-B

Q.1 Very Short Questions (attempt all questions) (10)

1.1 Objectives (10 MCQ Compulsory-0.5 mark each) 05

1.1a The essential condition for the combustion is

- A Oxygen
- B Water
- C Co<sub>2</sub>
- D All of the above

1.1b Which substance give heat and light after combustion

- A Flame
- B Fuel
- C Combustion
- D None of the above

1.1c Coal burn with\_\_\_\_\_

- A Flame
- B Only glow
- C Both flame and glow
- D None of the above

1.1d Burning of charcoal in a closed room will produced

- A Carbon dioxide
- B Nitrogen dioxide
- C Carbon dioxide
- D All of the above

1.1e The substance which have very low ignition temperature will

- A Catch fire easily
- B Will not catch fire
- C Catch fire after sometime
- D None of the above

1.1f CNG and LPG are the example of

- A Solid fuels
- B Gaseous fuels
- C Liquid fuels
- D They are not fuel

1.1g Ignition temperature is

- A Lowest temperature at catch fire
- B Higher temperature at catch fire
- C Any temperature
- D None of the above

1.1h Combustion is a

- A Chemical process
- B Physical process
- C Both of these process
- D None of these process



1.1i These are following zones of a flame

- A Two
- B Three
- C Four
- D No any zone

1.1j Newtons law of viscosity relates

- A Pressure velocity and viscosity
- B Shear stress and rate of angular deformation in a fluid
- C Temperature viscosity
- D Pressure temperature viscosity and rate of angular deformation in a fluid

1.2 Five Questions (Definitions -1 mark each)

05

- 1.2a Fluid
- 1.2b Flow
- 1.2c X-ray
- 1.2d Unit
- 1.2e Health

Q.2 Short Notes (attempt any two- 3 marks each)

06

- A What is vector?
- B What is fluid? Properties of fluids?
- C What is radioactivity in simple words?

Q.3 Explain in detail (attempt any two-7 marks each)

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- A What is cause expansion?
- B Explain about viscosity?
- C Explain in detail thermodynamics low any one

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