

Pabna University of Science and Technology

Lab Exam. (quiz) of PHY-2206: Physics Lab

Department: Physics

2nd Year 2nd Semester Exam. -2021

Session: 2019-2020

Name: _____

Roll No.: _____

Date: 31.07.2023		Total Marks: 92	Total Obtained Marks:	
Specific Heat				
Serial No.	Question	Q. Mark	Obtained Mark	
1	Write down the name of this experiment.	2		
2	Which type of apparatus are used in this experiment?	2		
3	What is the principle of the experiment?	2		
4	What is the aim of this experiment?	2		
5	Does Newton's law of cooling hold for any difference of temperature?	2		
6	What are factors on which the radiation from a hot body depends?	2		
7	What is the chief source of error and how to avoid it?	2		
8	Why is it necessary to use the same volume of the two liquids?	2		
9	Is it an accurate method?	2		
10	Can you find the specific heat of a very volatile liquid by this method?	2		
11	Define specific heat of cooling and heat capacity.	2		
12	How is heat capacity of a body related to specific heat capacity of its substance?	2		
13	There are 5 ml kerosene and 10 ml kerosene in 2 glasses. Which is different heat capacity and specific heat?	2		
14	What are factors on which the specific heat of particle?	2		
15	What is the formula used in this experiment?	2		
16	How is specific heat used in real life?	2		
17	Name the method used to determine the specific heat capacity of a substance.	2		
18	What is SI unit of specific heat?	2		
19	What is the symbol for specific heat?	2		
20	What is the SI unit of heat?	2		
21	Why is specific heat important?	2		
22	What does the specific heat depend on?	2		
23	What are the limitations of specific heat?	2		
24	Why does specific heat increase?	2		
25	Why is specific heat high?	2		
26	What is the full form of heat?	2		
27	Can specific heat be negative?	2		
28	When hot liquid inserted into the calorimeter which apparatus accept heat and released heat?	2		
29	What affects specific heat?	2		
30	Is specific heat intensive or extensive? Explain.	2		
31	Define cooling method.	2		
32	Define temperature.	2		
33	If temperature difference is 1°C and 1K which one is large?	2		
34	Which direction heat or temperature does flow? How long the flow?	2		

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35	Why do you take starting same temperature of liquid and water?	2	
36	Why do you take kerosene as an experimental liquid?	2	
37	Is it possible to determine specific heat of water? Opinion	2	
38	What is characteristic specific heat of a material?	2	
39	Mention the processes of determination of specific heat of a material.	2	
40	Does the Newton's law of cooling hold good for all temperature differences?	2	
41	How is Newton's law of cooling different from Stefan's law of heat radiation?	2	
42	What is the shape of cooling curve?	2	
43	What do you mean by specific heat of kerosene is 800 J/Kg/K?	2	
44	In this experiment what are the processes of heat followed and where?	2 + 2+ 2	

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Newton's Ring			
Serial No.	Question	Q. Mark	Obtained Mark
1	What is the formula used in Newton's ring?	2	
2	Which lens is used in Newton's ring experiment and why?	2	
3	What is the aim of Newton's ring experiment?	2	
4	Why Newton's Rings are circular and center of interference pattern is dark?	2	
5	What are the applications of Newton's ring?	2+2	
6	How are Newton rings formed?	2	
7	Why Newton's ring is called fringes of equal thickness?	2 + 2 = 4	
8	What are the processes of determine the radius of curvature?	2	
9	When the central spot of the pattern is bright?	2	
10	Which type of optical phenomena are happened?	2	
11	What is the function of the 45° inclined glass plate?	2	
12	Why do rings get closer as their order increases?	2	
13	What if the glass plate is replaced with plane mirror?	2	
14	What is happened if sodium light is replaced with white light?	2	
15	What will happen if we replace the lens with plane glass?	2	
16	What will happen if few drops of liquid are introduced between the lens and glass?	2	
17	What will happen if we use a lens of small radius of curvature?	2	
18	What if a plane glass making some angle with the glass stripe is used in place of lens?	2	
19	What will happen if a transparent liquid in Newton's rings experiment replaces air in the interspace?	2	

Unknown Wavelength Using Grating			
Serial No.	Question	Q. Mark	Obtained Mark
1	Which type of apparatus are used in this experiment?	2	
2	Why is grating used?	2	
3	Which type of optical phenomena are happened?	2	
4	What are the conditions of diffraction of light?	2	
5	What type of diffraction occurs in this experiment?	2	
6	What are the applications of diffraction grating?	2	
7	What is the aim of this experiment?	2	
8	How many lines are there in grating?	2	
9	What is the principle of grating?	2	
10	Why grating is called super prism?	2	
11	How is a grating constructed?	2	
12	What is replica grating?	2	
13	Which is better diffraction grating or prism?	2	
14	How is diffraction used in real life?	2	
15	Who made grating at first?	2	
16	What is grating pitch?	2	
17	How is grating prepared?	2	
18	What happens if the number of rulings per cm is either increased or decreased?	2	

$$M, S, D_2 = M_2 S_2 D_1 + m_3 (D_1 - D_2)$$

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19	What do you mean by ghost lines?	2	
20	Which laws of heat are followed in this experiment?	2	
21	State the laws of heat that are followed in this experiment.	2	
22	Define wavelength. Draw an image of it.	2	
23	What is the principle used for wavelength calculation by grating?	2	
24	What is the working principle of spectrometer using plane diffraction grating?	2	
25	What is the difference between Na light and He discharge tube?	2	

Specific Heat			
Serial No.	Question	Q. Mark	Obtained Mark
1	What is the aim of this experiment?	2	
2	What are factors on which the radiation from a hot body depends?	2	
3	What is the chief source of error and how to avoid it?	2	
4	Why is it necessary to use the same volume of the two liquids?	2	
5	Can you find the specific heat of a very volatile liquid by this method?	2	
6	How is heat capacity of a body related to specific heat capacity of its substance?	2	
7	There are 5 ml kerosene and 10 ml kerosene in 2 glasses. Which is different heat capacity and specific heat?	2	
8	What is the formula used in this experiment?	2	
9	How is specific heat used in real life?	2	
10	Why is specific heat important?	2	
11	What does the specific heat depend on?	2	
12	What are the limitations of specific heat?	2	
13	Why does specific heat increase?	2	
14	Why is specific heat high?	2	
15	Can specific heat be negative?	2	
16	When hot liquid inserted into the calorimeter which apparatus accept heat and released heat?	2	
17	What affects specific heat?	2	
18	Is specific heat intensive or extensive? Explain.	2	
19	If temperature difference is 1°C and 1K which one is large?	2	
20	Which direction heat or temperature does flow? How long the flow?	2	
21	Why do you take starting same temperature of liquid and water?	2	
22	Why do you take kerosene as an experimental liquid?	2	
23	Is it possible to determine specific heat of water? Opinion	2	
24	What is characteristic specific heat of a material?	2	
25	Mention the processes of determination of specific heat of a material.	2	
26	What do you mean by specific heat of kerosene is 800 J/Kg/K?	2	
27	In this experiment what are the processes of heat followed and where?	2 + 2 + 2	

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Session: 2019-2020

Name: Zihad Hossain

Roll No.: 200720

Date: 31.07.2023 / 05-08-23		Total Marks: 72	Total Obtained Marks:
Dispersive Power			
Serial No.	Question	Q. Mark	Obtained Mark
✓1	What is refractive index? Mention the formula of it.	2	
✓2	What do you mean by refractive index of water is 1.33?	2	
✓3	What do you mean by absolute refractive index of glass is 1.66?	2	
✓4	Which type of optical phenomena are happened?	2	
✓5	What is the aim of this experiment?	2	
✓6	Which is better diffraction grating or prism?	2	
✓7	What is the condition for obtaining minimum deviation?	2	
✓8	How does the deviation change with the color of light?	2	
✓9	How does the deviation vary with the angle of incidence?	2	
✓10	What are the factors on which refractive index depends?	2	
11	Define least count of spectrometer.	2	
✓12	Define minimum deviation angle.	2	
13	What is normal and anomalous dispersion? Where do you get anomalous dispersion?	2 + 2 = 4	
14	What are the factors on which the dispersive power of a prism depends?	2	
✓15	What is the use of collimator in the spectrometer?	2	
16	Why are lines and circles drawn on the prism table?	2	
✓17	Why do you take readings from both the verniers?	2	
✓18	What is SI unit of dispersive power?	2	
19	What do you mean by the dispersive power of a prism is 0.14?	2	
20	Dispersive power of a prism decreases with the increase in prism angle. True/False	2	
21	The angle of deviation decreases with increase in the angle of prism. True/False	2	
22	Dispersive power of a prism..... with the increase in prism angle.	2	
23	If a glass prism is dipped in water, its dispersive power. Decrease /increase /no change	2	
✓24	Uses of Spectrometer	2	
✓25	Define dispersion of light.	2	
✓27	Why does light split into its spectrum of colors in a prism but not in a glass slab?	2	
✓28	Give a daily life example of refraction of light.	2	
✓29	Which of the following phenomena of light are involved in the formation of a rainbow?	2	
✓30	Mention the name color in visible light spectrum.	2	
✓31	What are the types of dispersion of light?	2	
✓32	How dispersion of light through a prism occurs?	2	
✓33	What causes light dispersion?	2	
✓34	What is the splitting of white light into a band of colors known as?	2	
35	What happens when a ray of white light enters a glass prism?	2	

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Name: Zihad Hossain

Roll No.: 200720

Date: 31.07.2023 / 05-08-23		Total Marks: 76	Total Obtained Marks:
Unknown Wavelength Using Prism			
Serial No.	Question	Q. Mark	Obtained Mark
1	What is the formula used in this experiment?	2	
2	Write down the name of this experiment.	2	
3	Which type of apparatus are used in this experiment?	2	
4	Which type of optical phenomena are happened?	2	
5	What is calibration and its methods?	2	
6	What is the basic principle of calibration?	2	
7	What is purpose of calibration?	2	
8	What are the uses of calibration?	2	
9	What is spectrometer? What are the parts of it.	2 + 2 = 4	
10	What is the method for using spectrometer and explain?	2	
11	Which type of lens is used in collimator and telescope?	2	
12	What are the purposes of using lens?	2	
13	What happened when another type of lenses is used?	2	
14	Why do you use spirit level?	2	
15	What is prism in science?	2	
16	How many planes is present in prism?	2	
17	What types of materials are used for producing prism?	2	
18	Why light is bent when it is entering into the prism?	2	
19	Why spectrum is formed when light is passing through a prism?	2	
20	If we used normal glass against prism then what will be happened?	2	
21	Is water drop acts as a prism?	2	
22	In a spectrum of light, we have seen seven colors, at first red, black... and so on. What is the factor depending about this matter?	2	
23	Why we have seen the red color in sun set and sun raise moment?	2	
24	Why the sky is blue?	2	
25	What is prism formula?	2	
26	Is angle of prism 60 degree?	2	
27	What is the minimum deviation for prism?	2	
28	Define reflection of light and state the law of reflection of light.	2	
29	Define refraction of light and state the law of refraction of light.	2	
30	What is angle of deviation?	2	
31	What is light deviation?	2	
32	Which type of optical phenomena are happened?	2	
33	What is the aim of this experiment?	2	
34	Which is better diffraction grating or prism?	2	
35	Why the spectrometer should be labeled before use?	2	
36	What kind of an image produced by the telescope?	2	
37	Draw the curve minimum deviation angle versus wavelength.	2	