**SENIOR OLYMPIADS PHYSICS PRACTICAL**

**QUESTION ONE**

**In this experiment you will investigate the deflection of a metre rule when a mass is suspended from its centre.**

**You are provided with the following:**

1. **Two blocks**
2. **Two metre rules**
3. **Triangular prisms**
4. **Sting**
5. **Mass of 500g**
6. **(i) Set up the apparatus as shown in Figure 1.1 with a distance *l* between the supports of**

**approximately 95 cm.**

****

**Figure. 1.1**

**(ii) Measure and record *l***

***l= ………………………………………………….……………*….**

**(iii) Midway between the support, measure and record the height *ho* of the bottom of the rule**

**above the bench.**

***ho = …………………………………………………………………..***

1. **(i) Use the small loop of a string to suspend the mass from the rule, midway between the**

**supports.**

**(ii) Midway between the supports, measure and record the new height *h* of the bottom of the**

**rule above the bench.**

***h = ………………………………………………………………*……**

**(iii) Calculate the deflection *d* of the beam where**

***d = ho – h***

***d* = ………………………………………………………………..**

1. **Estimate the percentage uncertainty in your value of *d*.**

**Percentage uncertainty = ………………..…………………….**

1. **Change *l* to approximately 60 cm, repeat (a)(ii), (a)(iii) and (b)**

***l =* ………………………………………………….**

***ho = ……………………….……….………………*..**

***h = …*…………………………………………………**

***d = …………………………………………………….***

1. **It is suggested that the quantities *d* and *l* are related by the equation**

***d = kl2***

**Where *k* is a constant**

1. **Using your data, calculate two values of *k***

**First value of k = …………………..…………**

**Second value of k …………………………….**

1. **Explain whether your results support the suggested relationship.**

**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

1. **(i) Describe four sources of uncertainty or limitations of the procedure for this**

**experiment.**

1. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
2. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
3. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
4. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
5. **Describe four improvements that could be made to this experiment. You may suggest the use of other apparatus or different procedures.**
6. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
7. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
8. **………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**
9. **……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………..**

**QUESTION TWO**

**In this question you will investigate how what is seen in mirror depends on the distance from the mirror.**

1. **(i) On the sheet of plain paper provided, draw a line AB 4 cm from the top edge and parallel**

**with it. See Fig. 2.1**

**(ii) Mark the centre of AB and label this point C.**

**(iii). From C draw a line CD, perpendicular to AB, to the bottom of the paper.**

**(iv). On CD, mark the point 8.0 cm from C. Label this point E.**

**The distance between C and E is called d.**

**(v). Draw a line through E, perpendicular to CD. Label the line FG.**

**Fig.2.1 Fig.2.2**

1. **Using the four drawing pins, fix the sheet of paper to the board. See Fig. 2.2.**
2. **Stick a pin P1 vertically into the board on the line CD, at a distance 5.0 cm from C.**
3. **Place the front of the mirror along the line AB with the centre of the useful part of the mirror at point C.**

**Fig. 2.3**

1. **Looking along the line DC, view the image of the pin P1, seen in the mirror Fig.2.3.**
2. **Move your head slowly to the right until the image of the pin disappears from view.**
3. **Move your head back to the left until you can just see the image again.**

**Now stick a second pin P2 vertically into the board along the line FG and in line with the image of P1 seen in the mirror.**

1. **Now move your head to the left of D until, once again, the image of the pin P1 is just about to disappear from view. Stick a third pin P3vertically into the board along the line FG and in line with the image of P1 seen in the mirror.**
2. **Measure the distance s between P1 and P3.**
3. **Repeat the steps set out in (a)(iv), (a) (v) and (c) (iii) and (c)(iv) until you have a total of five sets of values of *d* and *s* for the range 8.0 cm to 24.0 cm.**
4. **(i) Plot a graph of s/cm (y – axis), starting your scales at point (0,0).**

**Draw the best straight line through your points.**

1. **From your graph, determine the so, the value of s when d = 0.**
2. **Determine the gradient G of your line, showing how you obtain the necessary information from the graph.**
3. **Calculate another value for so using the equation**

**So = Kg,**

**Where k = 5.0 cm.**

1. **Give one precaution that would increase the accuracy of the experiment.**

**……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**QUESTION THREE**

**In this experiment you will investigate the variation of Potential difference along a uniform resistance wire carrying a steady current.**

**Figure 3.3 shows the circuit which has been set up for you.**

**Figure 3.3**

1. **(i) Place the jockey J on the resistance wire AC at a distance l from A where l = 10 cm.**

**(ii) Close key K and record the potential difference V between A and J as registered on the**

**voltmeter.**

**V = …………………………………………..**

1. **Repeat this procedure for AJ = 20cm, 30 cm, 40 cm, 50 cm, 60 cm, 70 cm and 80 cm tabulating all your results.**
2. **Plot a graph of AJ cm (x – axis) against V volts (y – axis) and measure its slope.**
3. **What conclusion can you draw about the variation of potential difference with distance along the wire? Justify your answer.**
4. **What assumption did you make**

**…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

1. **What is the fall in potential per cm of wire?**

**QUESTION FOUR**

**In this experiment, you will investigate how the motion of a pendulum bob is affected by the height of the bob above the bench.**

**You have been provided with the following; Metre rule, Bob, String, Stop watch, Clamp and stand**

1. **(i) Set up the apparatus as shown in Figure 4.1.**

****

**Figure 4.1**

**The distance h from the point of suspension to the bench should be as large as**

**possible.**

**The distance x between the centre of the bob and the bench should be approximately**

**5 cm.**

**(ii) Measure and record distance h.**

**h= ……………………………………………………**

**Through out this experiment, do not change the distance h.**

**(iii) Measure and record distance x.**

**x = ………………………………………………………**

1. **Displace the bob a small distance to the left. Release the bob and watch the movement.**

**The time the bob takes for each complete swing, first to the right and then back to the left, as shown in Figure 4.2.**

****

**Fig.4.2**

**By timing several of these complete swings, determine an accurate value of T.**

**T = ……………………………………………**

1. **Keeping h constant, change x and repeat (a)(ii) and (b) until you have six sets of values for x and T.**

**Include values for T2 in your table of results.**

1. **(i) Plot a graph of T2 on the y – axis against x on the x – axis.**

**(ii) Draw the straight line of best fit.**

**(iii) Determine the gradient and y – intercept of this line of best fit.**

**Gradient = …………………………………………………………**

**y – intercept = …………………………………………………..**

1. **The quantities T and x are related by the equation**

**T2 = A – Bx**

**Where A and B are constants.**

**Use your answers to (d)(iii) to determine the value of .**

**Give an appropriate unit.**

**= …………………………………………………**

**PRIMARY SCIENCE QUIZ**

1. **How many does an insect have?**

**Answer: 6 legs**

1. **Any substance that has mass and occupies space is called?**

**Answer: Matter**

1. **What gas is produced when a metal reacts with water?**

**Answer: Hydrogen**

1. **What do we call the green substance found in the leaves?**

**Answer: Chlorophyll**

1. **What is the percentage content of oxygen in the atmosphere?**

**Answer: 21%**

1. **What we call the direct change of a substance from a solid to a gas or vice versa?**

**Answer: Sublimation**

1. **What is the percentage content of nitrogen in the atmosphere?**

**Answer: 78%**

1. **What method can you use to separate sand and iron filings?**

**Answer: Magnetism**

1. **Name the organ at which gaseous exchange in human beings takes place?**

**Answer: Lungs**

1. **Name the vessels that carry from the heart to the body tissues?**

**Answer: Arteries**

1. **What name is given to the carrying away of good top soil by wind and water?**

**Answer: Soil Erosion**

1. **What is the formular for density?**

**Answer:  accept mass divided by volume.**

1. **Name the female part of the flower.**

**Answer: Stigma carpel**

1. **What are the functions of the petals in the flowering plant?**

**Answer: to attract insects**

1. **Name an instrument which is used to measure the temperature of human being.**

**Answer: Clinical thermometer**

1. **What name is given to the complete path in which an electric current flows?**

**Answer: Circuit**

1. **A place without air is called a …………………………………………**

**Answer: Vacuum**

1. **Name the furthest plant from the sun in the solar system.**

**Answer: Pluto**

1. **What name is given to the only planet that supports life?**

**Answer: Earth**

1. **What is fertilization?**

**Answer: the joining of egg and sperm.**

1. **What deficiency disease is caused by lack of vitamin D?**

**Answer: Rickets**

1. **What do the letters AIDS stand for?**

**Answer: Acquired Immune Deficiency Syndrome**

1. **What do the letters ART stand for**

**Answer: Anti Retro – viral Treatment.**

1. **What is the approximate temperature of boiling water at sea level?**

**Answer: 100oC**

1. **What name is given to the contamination of the environment?**

**Answer: Pollution**

1. **What name is given to the amount of water vapour in the atmosphere?**

**Answer: Humidity**

1. **What name is given to animals that are kept by human beings?**

**Answer: Domestic Animals**

1. **What is pollination?**

**Answer: Transfer of pollen grains the anthers to the stigma**

1. **What is the S.I unit of power?**

**Answer: Watts**

1. **Man is to baby as a dog is to……………….**

**Answer: Puppy**

1. **What name is given to animals that feed on flesh and only?**

**Answer: Carnivores**

1. **What name is given to the loss of water by plants through leaves?**

**Answer: Transpiration**

1. **How many colours are on the rainbow?**

**Answer: Seven**

1. **Name the gas common on planet Mars.**

**Answer: Carbon dioxide**

1. **Name the hottest plant in the solar system?**

**Answer: Mercury**

1. **What do we call the period between fertilization and birth in man?**

**Answer: Gestation**

1. **What do call a leaf which has patches of different colours?**

**Answer: Variegated leaf**

1. **Name the planet which has 24 moons.**

**Answer: Saturn**

1. **Which device protects electrical appliances from damage?**

**Answer: Fuse**

1. **What do we call the sitting of a bird on eggs?**

**Answer: Incubation**

**PRIMARY SCIENCE OLYMPIADS**

1. **List three traditional ways of preserving food.**
2. **…………………………………………………………………………………………………………………………………….**
3. **…………………………………………………………………………………………………………………………………….**
4. **…………………………………………………………………………………………………………………………………….**
5. **List the three states of matter.**
6. **……………………………………………………………………………………………………………………………………**
7. **…………………………………………………………………………………………………………………………………….**
8. **…………………………………………………………………………………………………………………………………….**
9. **Name two types of reproduction.**
10. **…………………………………………………………………………………………………………………………………..**
11. **…………………………………………………………………………………………………………………………………..**
12. **What do we call the transfer of heat through solids?**

**…………………………………………………………………………………………………………………………………………………**

1. **Name any type of domesticated animals**

**…………………………………………………………………………………………………………………………………………………**

1. **List any two magnetic materials.**
2. **……………………………………………………………………………………………………………………………………**
3. **……………………………………………………………………………………………………………………………………**
4. **What colour do we get when we add red and black?**

**…………………………………………………………………………………………………………………………………………………**

1. **What name is given to the opposition of the flow current in the circuit?**

**………………………………………………………………………………………………………………………………………………**

1. **When does parental care in mammals begin?**

**………………………………………………………………………………………………………………………………………………**

1. **What deficiency disease is caused by lack of proteins?**

**…………………………………………………………………………………………………………………………………………………**

1. **The sun and its nine planets make what is called?**

**……………………………………………………………………………………………………………………………………………….**

1. **What is the test for magnetism?**

**………………………………………………………………………………………………………………………………………………**

1. **What colour would be obtained when iodine solution is added to a piece of cassava?**

**…………………………………………………………………………………………………………………………………………………**

1. **What term is given to the bouncing back of light?**

**………………………………………………………………………………………………………………………………………………..**

1. **Name the process by which plants produce their own food.**

**………………………………………………………………………………………………………………………………………………**

1. **State the name of the blood which contains oxygen.**

**……………………………………………………………………………………………………………………………………………….**

1. **Name an instrument which doctors use to listen to the heart beat of the person.**

**…………………………………………………………………………………………………………………………………………………**

1. **What instrument is used to measure wind speed?**

**…………………………………………………………………………………………………………………………………………………**

1. **What type of eclipse occurs when the moon comes in between the Earth and Sun?**

**…………………………………………………………………………………………………………………………………………………**

1. **Name the chemical used to make water soft.**

**………………………………………………………………………………………………………………………………………………….**

1. **What name is given to the type of energy possessed by a moving object?**

**………………………………………………………………………………………………………………………………………………**

1. **What chemical is used for making water safe for drinking?**

**……………………………………………………………………………………………………………………………………………..**

1. **What we call the first set of teeth in mammals?**

**……………………………………………………………………………………………………………………………………………….**

1. **What name is given to the process by which a mother stops the child from breast feeding?**

**………………………………………………………………………………………………………………………………………………**

1. **What is dehydration?**

**…………………………………………………………………………………………………………………………………………………**

1. **Name two types of senses in man.**
2. **……………………………………………………………………………………………………………………………………**
3. **…………………………………………………………………………………………………………………………………..**
4. **In what class of levers is the wheelbarrow?**

**………………………………………………………………………………………………………………………………………………**

1. **Which one travels faster between light and sound?**

**……………………………………………………………………………………………………………………………………………….**

1. **What controls the amount of light entering the eye?**

**………………………………………………………………………………………………………………………………………………**

1. **What force causes the objects to come down when they are thrown upwards?**

**………………………………………………………………………………………………………………………………………………**

1. **List three types of soil.**
2. **……………………………………………………………………………………………………………………………………**
3. **……………………………………………………………………………………………………………………………………**
4. **……………………………………………………………………………………………………………………………………**
5. **What do we call materials that do not allow electricity to pass through?**

**…………………………………………………………………………………………………………………………………………………**

1. **Why do the railway lines have gaps between them?**

**…………………………………………………………………………………………………………………………………………………**

1. **Name a device that is used to control temperature between certain limits in an electrical appliance?**

**……………………………………………………………………………………………………………………………………………**

1. **Name the colour that is used as a live wire in an electric plug.**

**……………………………………………………………………………………………………………………………………………….**

1. **In which stroke is the spark produced within an engine?**

**…………………………………………………………………………………………………………………………………………………**

1. **What do you call air in motion related to?**

**…………………………………………………………………………………………………………………………………………………**

1. **What type of clouds brings rain?**

**………………………………………………………………………………………………………………………………………………**

1. **What we call the liquid that passes through a filter paper?**

**…………………………………………………………………………………………………………………………………………………**

1. **What name is given to the angle formed between the normal and incident ray?**

**…………………………………………………………………………………………………………………………………………………**

**ANSWERS FOR SCIENCE OLYMPIADS**

1. **(i) drying (ii) smoking (iii) putting under ash**
2. **(i) gas (ii) solid (iii) liquid**
3. **(i) Sexual (ii) Asexual**
4. **(i) Cow (ii) Dog/ cat**
5. **Conduction**
6. **(i) Nickel (ii) cobalt (iii) Iron**
7. **Brown**
8. **Resistance**
9. **At conception**
10. **Kwashiorkor**
11. **Solar system**
12. **Repulsion**
13. **Blue/black**
14. **Reflection**
15. **Photosynthesis**
16. **Oxygenated blood**
17. **Stethoscope**
18. **Anemometer**
19. **Eclipse of the sun**
20. **Calcium**
21. **Kinetic energy**
22. **Chlorine**
23. **Milky teeth**
24. **Weaning**
25. **Loss of excess water from the body**
26. **5 senses**
    * + **Touch**
      + **Smell**
      + **Sight**
      + **Taste**
      + **Hear**
27. **Second class**
28. **Iris**
29. **Light**
30. **Force of gravity**
31. **Clay, Sand, Loam**
32. **Insulators**
33. **For expansion**
34. **Red brown**
35. **Thermal**
36. **Power**
37. **Wind**
38. **Nimbus**
39. **Filtration**
40. **Angle of incidence**

**PRIMARY GENERAL KNOWLEDGE**

1. **Who is the UN general secretary?  
   Answer: Burn Ki – moon**
2. **Who inverted the train?**

**Answer: George Steveson**

1. **Where was the name Zambia derived from?**

**Answer: Zambezi**

1. **Who built the Kariba dam?**

**Answer:**

1. **When did the second Zambian Republican president die?**

**Answer: 18th June 2011**

1. **What is the new name of Living stone International air?**

**Answer: Harry Mwaanga Nkumbula**

1. **Which country got the third position in the just ended AFCON?**

**Answer: Mali**

1. **Which country did the father of Barrack Obama come form?**

**Answer: Kenya**

1. **What was the first country to gain its political independence in Africa?**

**Answer: Ghana**

1. **Name the largest animal in the world?**

**Answer: Wale**

1. **What is the old name for Mbala?**

**Answer: Abercon**

1. **Who was the first missionary to Africa?**

**Answer: Henry Molton Stenely**

1. **Who is the most famous Woman Boxer in Zambia?  
   Answer: Esther Phiri**
2. **What do the acronym ZICTA?**

**Answer: Zambia Information Communication Technology Authority**

1. **How many neighbouring countries does Zambia have?**

**Answer: Eight (8)**

1. **Which country is found inside another country?**

**Answer: Lesotho**

1. **What do call men who marry fellow men?**

**Answer: Gay**

1. **Who is the first Woman Inspector General Police in Zambia?**

**Answer: Stella Libongani**

1. **What do the acronym CAMFED stand for?**

**Answer: Campaign for Female Education**

1. **Which side of the road should pedestrians use?**

**Answer: Right**

1. **The name which is used to name a vegetable and a crime is ………………………..**

**Answer: Rape**

1. **Who was the major sponsor for the African cup of Nation in Zambia?**

**Answer: First Quantum**

1. **What do you call a political party which is not government?**

**Answer: opposition**

1. **What does the acronym JETS stand for?**

**Answer: Junior Engineers Technicians and Scientists.**

1. **What is the slogan for the PF government?**

**Answer: Donchi Kubeba**

1. **Who scored the first goal for Zambia in the 2012 African Cup of Nations?**

**Answer: Emmanuel Mayuka**

1. **How many years have passed since Zambia’s independence?**

**Answer: 48**

1. **In which year was the Gabon disaster happen:**

**Answer: 1993**

1. **What is the name of the currency of South Africa?**

**Answer: Rand**

1. **I have seven days in me, what am I?**

**Answer: week**

1. **What do we call a year which has 366 days?**

**Answer: Leap year**

1. **Who is the speaker of the National Assembly?**

**Answer: Dr. Matibini**

1. **The highest mountain in Africa is called?**

**Answer: Kilimanjaro**

1. **After how many years are general elections held?**

**Answer: 5 years**

1. **Who elects the speaker of the National Assembly?**

**Answer: Members of parliament**

1. **Who among the presidents of Zambia ruled for shortest period?**

**Answer: Rupia Banda**

1. **How many mobile phone networks do we have in Zambia?**

**Answer: 3**

1. **Who was the first black republican president of South Africa?**

**Answer: Nelson Mandela**

1. **A human being has got how many bones?**

**Answer: 206**

1. **Who is the founder of Buddhism?**

**Guatama Bhuda**

**SENIOR QUIZ GENERAL KNOWLEDGE**

1. **In which field of event athletics is forsbury used? One attempt only.**

**Ans: High Jump**

1. **Which person is Mount Everest named after?**

**Ans: Sir George Everest**

1. **How old is the Zambian president?**

**Ans: 74 years**

1. **Name the longest man made structure in the world?**

**Ans: The great wall of China**

1. **Name the only African team where the Olympic torch lit in the year 2008 Olympic Games?**

**Ans: Dar es salaam**

1. **What is the common name for ascorbic acid?**

**Ans: Vitamin C**

1. **Who inverted the vacuum cleaner?**

**Ans: Hubert Booth**

1. **What does the letters PMTCT stand for in relation to HIV and AIDS?**

**Ans: Preventing Mother to Child Transmission**

1. **State the scale used to measure the measure the magnitude of an earth quake.**

**Ans: Richter Scale**

1. **What do we call the family of lions?**

**Ans: Pride**

1. **What is the language spoken by the largest number of people in the world?**

**Ans: Chinese**

1. **Which animal is said to run the fastest in the game park?**

**Ans: Cheetah**

1. **A group of soldiers is called an army. What do we call a group of dolphins?**

**Ans: Army**

1. **Which planet in the solar system is less dense than water?**

**Ans: Saturn**

1. **Which two South African personalities have been awarded the Nobel Peace Prize?**

**Ans: Bishop Desmond Tutu and Nelson Mandela**

1. **Hydrophobia is the fear of water. What is Mysophobia?**

**Ans: The fear Germs**

1. **Which is the Headquarters of Muchinga Province?**

**Ans: Chinsali**

1. **What does the word ATM is baking stand for?**

**Ans: Automated Teller machine**

1. **What is the involuntary movement of muscles to help generate more heat when body temperature drops below normal temperature?**

**Ans: Shivering**

1. **Name the animal called the ship of the desert.**

**Ans: Camel**

1. **Name the North African country in which the present Arab Uprising started?**

**Ans: Tunisia**

1. **Who scored the winning penaylt for Zambia during the 2012 African Cup of Nations?**

**Ans: Stophila sunzu**

1. **What do the letters V.C.R in electrons stand for?**

**Ans: Video Cassette Recorder**

1. **What do call the signal where electrical representations of the physical quantities that produce them?**

**Ans: Analogue Electronics**

1. **What do the acronyms DVD in electronics stand for?**

**Ans: Digital Video Decoder**

1. **In which country are the Nasar Lines found?**

**Ans: Peru**

1. **On which day, month and year was Osama Bin Laden killed?**

**Ans: 1st May 2011**

1. **Who was the youngest ruling pharaoh in the history of Egypt?**

**Ans: King Tut**

1. **What do the letter FAWEZA stand for?**

**Ans: Forum for Women Educationalist in Zambia**

1. **What are the first and last letters of the Greek alphabet?**

**Ans: Alpha and Omenga**

1. **What is the new name for Lusaka International Airport?**

**Ans: Kenneth Kaunda International Airport**

1. **In which year did the recent eclipse of the sun occur in Zambia?**

**Ans: 2001**

1. **Who scored the only goal for Zambia in the 2012 African Cup of Nations against Ghana?**

**Ans: Emmanuel Mayuka**

1. **Who defined an atom as the indivisible particle of an element?**

**Ans: John Dalton**

1. **State the scientific name for limestone?**

**Ans: Calcium carbonate**

1. **What do the letters Phd stand for?**

**Ans: Doctor of Philosophy**

1. **Which water falls is deepest in Zambia and state where it is found?**

**Ans: Kalambo falls in Mbala District**

1. **Which country is known for its women marrying men?**

**Ans: India**

1. **Who is the founder of humanism in Zambia? One attempt only**

**Ans: Dr. Kenneth David Kaunda**

1. **Who is said to be the founder of Nursing?**

**Ans: Florence Nightgale**

1. **Spell the word DIARRHOEA.**
2. **What remains yours after giving it to others?**

**Ans: Name**

1. **What is the supreme council of the Bembas?**

**Ans: Ilamfya**

1. **Who emerged the man of the tournament in the 2012 African Cup of Nations?**

**Ans: Christopher Katongo**

1. **Name the Zambian player who was send back during the 2012 African Cup of Nation**

**due to misconduct?**

**Ans: Mulenga Clifford**

1. **‘ the history patent does not begin with royal grants.’ Who said these words?**

**Ans: Queen Zunzabeta**

1. **Stat e the day and date His excellence the President of Zambia Mr. Michael Chilufya Sata sown in?**

**Ans: Friday 24th September, 2011**

1. **Name the shortest serving present of Zambia?**

**Ans: Ruphia Bwezani Banda**

1. **Name the largest animal on Earth?**

**Ans: Blue Wale**

1. **Name the country where fire works originated?**

**Ans: China**

1. **What term is used to refer to number of distinct types of creation of mind for a set of exclusive right are recognized?**

**Ans: intellectual property**

1. **Name the district which have removed form southern province and attached to Lusaka and central provinces respectively.**

**Ans: Chirundu and Itezeteze**

1. **Name the countries which co – hosted the 2012 Africa Cup of Nations?**

**Ans: Gabon and Equatorial Guniea**

1. **Name the cabinet minster with three potifolios in the Zambian Cabinet?**

**Ans: Honorable Fackson Shamenda**

1. **In the Zambia National Team which player was promoted from corporal to sergeant?**

**Ans: Nathan Sinkala**

1. **Name an African capital town whose name has three vowels as the first three letters.**

**Ans: Auogadogou**

1. **Which scientist is refer as the inverter of electricity?**

**Ans: Thomas Alva Edison**

1. **The speed of of computer mouse is measured in which unit?**

**Ans: Mickey**

1. **Which scientist (husband and wife) are credited with the discovery of radioactivity using a photographic film?**

**Ans: Marie and Parie Curie**

1. **Name the Hospital in which the 3rd president of Zambia died in.**

**Ans: Percy Military Hospital**

1. **What is the name of the longest high way in the world?**

**Ans: Trans – Cananda**

1. **State the city which was once called the “ Forbidden City”**

**Ans: Peking**

1. **Who is the founder of Christianity?**

**Ans: St. Pual**

1. **Name the plant that has no stem, no leaves but undergoes photosynthesis?**

**Ans: Algae**

1. **What do we call a legal document that prevents others from making, using or selling other persons inventions for a fixed period of time?**

**Ans: Patent**

1. **What is the oldest known city in the world?**

**Ans: Damascus**

1. **The coldest place on the earth is?**

**Ans: Verkoyansk in Siberia**

1. **Barack Obama’s birthday is on which date?**

**Ans: August 4th**

1. **Name the president of the newest country in the world.**

**Ans: Silva Kiir of South S udan**

1. **In British system of units a Horse power (H.P) is used? What is equivalent to a Horse Power watt?**

**Ans: 746 Watts**

1. **State the name of the coach who took Zambia National Soccer Team to the final in 1994.**

**Ans: Ian Portafield**

**SENIOR QUIZ QUESTION PHYSICS**

1. **What type equilibrium is the is one where the centre of gravity is always within the base of the object? One attempt only.**

**Ans: Neutral Equilibrium**

1. **What radio active detecting device uses liquid hydrogen?**

**Ans: Cloud Chamber**

1. **The time required for a given mass of radio active material to decay to half its original mass is called?**

**Ans: Half life**

1. **The most abundant isotope of uranium is?**

**Ans: Uranium 238**

1. **Which principle states that “For the horizontal flow of a fluid through a tube, the sum of the pressure and kinetic energy per unit volume of a fluid is a constant”?**

**Ans: Bernoulli’s Principle**

1. **Two waves having the same amplitude and frequency travel through the same medium and are superposed. The resultant wave will have an increased ………………………………… (One attempt only?**

**Ans: Amplitude**

1. **What term is used to describe an object which transmits high but diffuse it so that substance seen through them cannot be identified?**

**Ans: translucent objects**

1. **Increased loudness produced when two bodies vibrate sympathetically is called?**

**Ans: Resonance**

1. **What is usual expression of unit for momentum?**

**Ans: kilogram metres per second (kgm/s)**

1. **What two factors determine the range of the mercury thermometer?**

**Ans: Volume of the bulb and stem**

1. **What do you call the process where two bodies A and B have no net transfer of thermal energy between them?**

**Ans: thermal Equilibrium**

1. **Why is shiny surface of a body considered to be a poor absorber?**

**Ans: it reflects radiant energy**

1. **Which factor affects the pitch of sound?**

**Ans: Frequency**

1. **What term can be used to describe the angle formed as a result of movement of light ray from the denser medium to less dense medium?**

**Ans:**

1. **What is the function of the Variable resistor or Rheostat?**

**Ans: To vary the current in a circuit**

1. **If electrical energy cost is K150 per unit. What is the cost of running an air conditioner with the power of 1000W for 8 hours?**

**Ans: K1200 = 00**

1. **Charging an accumulator is an example of energy conversion from ……………….**

**Ans: Electrical energy to chemical energy**

1. **Which law states that, an induced current flow in a direction so as to oppose the change producing it?**

**Ans: Lenz’s Law**

1. **A device which is used to detect a feeble current is called?**

**Ans: Galvanometer**

1. **An electromagnet is based on what property?**

**Ans: electromagnetic induction**

1. **A temperature of 50o is equivalent to temperature change of how many Kelvins?**

**Ans: 50 Kelvin**

1. **Ordinary water waves travel at greater speed in deeper water than in shallow water. What term is used to describe this behavoiur?**

**Ans: Refraction**

1. **A sound wave takes 2 milliseconds to pass a detector. What is its frequency?**

**Ans: 50 Hz or 1/0.002**

1. **What form of energy does a substance gain or lose when it changes state?**

**Ans: Latent heat**

1. **What name is given to the rule that states that at each junction the total current flowing into junction equal the total current leaving the junction.**

**Ans: Kirchoff’s Junction Rule**

1. **If pressure is applied to ice its freezing point falls. The effect is known as ?**

**Ans: Regelation**

1. **A gas which follows the gas laws precisely is known as?**

**Ans: Ideal gas**

1. **The law which governs the rate of loss of heat from a body to its surrounding is known as?**

**Ans: Newton’s Law of Cooling**

1. **A body that is protected through a gravitational field is known as?**

**Ans: projectile**

1. **The force needed to overcome the frictional force when the bodies are at rest is called?**

**Ans: Static Force**

1. **The frictional forces within the liquid act between one layer and another. Such a motion is called?**

**Ans: lamina flow**

1. **The transmission of light through glass fibre is one of the most important use of total internal reflection.**

**This use of glass is known as?**

**Ans: Fibre Optics**

1. **What name is given to the wave in which the amplitude varies from place to place along a wave?**

**Ans: stationery or standing wave**