

8th Class Science Models Papers 2013 Exam

Part-A (Multiple Choice Questions) 60 Marks

Time Allowed: 1 hour 20 minutes

Instruction:- Forty (40) Multiple Choice Questions (MCQs) are given in this part. Attempt all questions. All questions carry equal marks. Mark correct option on computerized answer sheet.

Q. No.1. Chlorine gas is used in the home water supply system during raining season to kill the micro organisms named.

- (a) Algae (b) Bacteria (c) Fungi (d) Virus

Q. No.2. Which one of the following radicals carry variable charges.

- (a) Zn^{2+} (b) Fe^{3+} (c) Mg^{2+} (d) Na^{+}

Q. No.3. Select the micro organism that is "NOT" cellular:

- (a) Algae (b) Bacteria (c) Fungi (d) Virus

Q. No.4. Current is flow of:

- (a) Charge (b) Electron (c) Neutron (d) Proton

Q. No.5. The atoms in one molecule of water (H

2O) are in the ratio of

- (a) 1:2 (b) 2:1 (c) 1:4 (d) 4:1

Q. No.6. Green house is a room made of:

- (a) Bricks (b) Iron (c) Glass (d) Wood

Q. No.7. Two cells are connected in series in a circuit. If another cell is added in this circuit, then the current in the circuit will be:

- (a) Increased (b) Decreased
(c) Remained same (d) First increase then decrease

Q. No.8. Example of sedimentary rocks is

- (a) Basalt (b) Clay (c) Marble (d) Gypsum

Q. No.9. In the given diagram, the virtual image is formed when the body is placed at the point

- (a) A (b) B (c) C (d) D

Q. No.10. In order to make their own food, plant leaves absorb

- (a) Minerals (b) Oxygen (c) Rain (d) Sunlight

Q. No.11. Cold blood group of animals is

- (a) Crocodile, Ostrich (b) Ostrich, Kiwi
(c) Sparrow, Crocodile (d) Tortoise, Crocodile

Q. No.12. Current can pass through

- (a) Iron (b) Plastic (c) Rubber (d) Wood

Q. No.13. If the potential difference across a bulb is increased from 2 volt to 5volt. Then the quantity of current through the bulb will:

- (a) Decrease (b) First decreases then increases
(c) Increase (d) First increases then decreases

Q. No.14. When water boils

- (a) Gas becomes solid (b) Liquid becomes solid
(c) Liquid becomes gas (d) Solid becomes liquid

Q. No.15. The depletion of ozone layer is happening in the atmosphere due to

- (a) Less industrialization (b) Excessive industrialization
(c) Excessive plantation (d) Excessive use of Pesticides

Q. No.16. Which one of the following is a chemical change:

- (a) Boiling of milk (b) Boiling of water
(c) Boiling of egg (d) Melting of ice

Q. No.17. The disease that can transfer to the next generation is

- (a) Cholera (b) Hemophila (c) Influenza (d) Malaria

Q. No.19. The symbol of Cobalt is

- (a) Cr (b) Co (c) Ca (d) CO

Q. No.20. The Galvanometer will detect current when the magnet is

- (a) Far away from the coil (b) High above the coil
(c) Moving in the coil (d) below near the coil

Q. No.21. Salt that is used for the treatment of goiter disease is

- (a) Iodine (b) Magnesium (c) Potassium (d) Sodium

Q. No.22. When two hydrogen atoms and one oxygen atom combine chemically they form:

- (a) Compound (b) Element (c) Ion (d) Mixture

Q. No.23. Diamond is most likely used in making of

- (a) Bangles (b) Electrode
(c) Jewellery (d) Electric bulb

Q. No.24. Chromosomes are chemically composed of DNA and

- (a) Carbohydrates (b) Fats
(c) Protein (d) Vitamins

Q. No.25. Example of Non-Crystalline forms of carbon is

- (a) Charcoal and Coal (b) Charcoal and Bucky ball
(c) Coal and Graphite (d) Coke and Diamond

Q. No.26. The group of dicotyliden plants is

- (a) Apple, Pea, Maize (b) Pea, Rose, Orange
(c) Rice, Apple, Sarsoon (d) Wheat, Mango, Sugarcane

Q. No.27. Soap is prepared by heating the mixture of

- (a) Animal fat and Sodium Bicarbonate
(b) Vegetable oil and Sodium Carbonate
(c) Vegetable oil and Animal fat

(d) Vegetable oil and Sodium Hydroxide

Q. No.28. Conifers are the plants which have

- (a) Cones and small leaves (b) Naked seeds and Needle leaves
(c) Naked seeds but no leaves (d) Seeds and flowers

Q. No.29. If you dip your finger inside a liquid. The pressure exerted by the liquid on your finger would be

- (a) Different at all parts (b) Minimum on lower part
(c) Maximum on upper part (d) Same at all parts

Q. No.30. If charge on Zinc is 2

Q. No.31. The eye colour of Amina's mother is brown. The colour of eyes of Amina will be.

- (a) Black (b) Brown
(c) Blue (d) Green

Q. No.32. 20

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C Temperature in Kelvin scale is

- (a) 253 k (b) 273 k (c) 293 k (d) 313 k

Q. No.33. Marble and Quartzite are the example of rocks called:

- (a) Igneous (b) Metamorphic
(c) Sedimentary (d) Igneous and Sedimentary

Q. No.34. If your family member has breathing problem, which mixture of gases for treatment may be used for artificial breathing

- (a) Carbon monoxide and Oxygen (b) Carbon dioxide and Oxygen
(c) Chlorine and Carbon dioxide (d) Hydrogen and Carbon monoxide

Q. No.35. Comets revolve around the

- (a) Earth (b) Moon (c) Sun (d) Star

Q. No.36. If two ends of a bulb are connected with the positive terminal of the battery, the bulb will

- (a) be lighted (b) be Fused (c) First lighted then fused (d) not lighted

Q. No.37. Solids ionic compound behaves at normal temperature as

- (a) Conductor (b) Insulator
(c) Semi-Conductor (d) Super Conductor

Q. No.38. One of your class fellows has fungus problem on his skin which substance will be applied along with sulphur for treatment

- (a) Calcium Hydroxide (b) Calcium Oxide
(c) Sodium Carbonate (d) Sodium Hydroxide

Q. No.39. Na_2CO_3

represents the chemical formula of

- (a) Barium Carbonate (b) Calcium Carbonate

(c) Potassium Carbonate (d) Sodium Carbonate

Q. No.40. When a light ray enters from lighter medium to denser medium at right angle, it

(a) Bends towards normal (b) Bends away from normal

(c) Does not change its path (d) Reflects back in lighter Medium

Subjective Part—40 Marks

Q.41....What is hematite?

Write six uses of iron?

Write five uses of gypsum?

Q.42—What is environment degradation?

Write different forms of environment degradation?

Write four steps to save environment?

Q.43—How is CO_2 prepared?

Write four properties of CO_2 ?

Write four uses of CO_2 ?

Q.44—What is nebula?

How galaxies are formed?

Explain milky way galaxy? www.educational.pk By Adeel Abbas

(c) Give five uses of H_2SO_4 . (4)

Q. 44. (a) What is thermal expansion of solids? (2)

(b) Give three examples of thermal expansion of solids from daily life. (4)

(c) How can you prove thermal expansion and contraction of solids? (4)

Punjab Examination Commission Class 8th 2011

Mathematics

Part: (A)

Time: 1 Hour 20 Minutes

Marks: 60

(Multiple Choice Questions)

Specific Instructions: Forty (40) Multiple Choice Questions (MCQs) are given in this part. Attempt all questions. All questions carry equal marks.

Q. 1. If Set $A = \{0, 1, 2\}$ and $B = \{1, 2\}$, then relation between A and B is:

(a) $A \subseteq B$

(b) $B \subseteq A$

in its shape and composition." This is the statement of:

- (a) Law of constant proportion
 - (b) Combination or synthesis reaction.
 - (c) Law of conservation of mass
 - (d) Simple decomposition reaction
- Q. 8. The taste of bases is:
- (a) Sour
 - (b) Sweet
 - (c) Bitter
 - (d) Salty
- Q. 9. Which of the following is used for the treatment of bees stings?
- (a) Calcium chloride
 - (b) Acetic acid
 - (c) Copper sulphate
 - (d) Ammonium hydroxide
- Q. 10. The electric cables loosened during summer. It is because that in summer;
- (a) more current passed in it
 - (b) more birds sit on it
 - (c) more storms and fast wind blow
 - (d) temperature increases
- Q. 11. When an object is placed beyond $2F$, the image is formed at:
- (a) between F and $2F$
 - (b) at F
 - (c) at $2F$
 - (d) beyond F and $2F$
- Q. 12. Which two are similar in human eye and camera?
- (a) Retina of eye and film in camera
 - (b) Cornea of eye and lens in camera
 - (c) Retina of eye and aperture of camera
 - (d) Ciliary muscles of eye and aperture of camera
- Q. 13. The eye lens becomes thicker when eye look on objects which are:
- (a) Close
 - (b) Very close
 - (c) Distant
 - (d) Very distant

- Q.14. Viruses caused dangerous diseases in human being are:
- (a) Fever, flue and cough
 - (b) Hepatitis B and C, Cancer and AIDs
 - (c) Headache, fever and T.B
 - (d) Belly pain, flue and cough
- Q.15. Bacteria causes canker disease in:
- (a) Peach
 - (b) Apple
 - (c) Potatoes
 - (d) Lemon
- Q.16. Which of the statement is correct, if there are no bacteria in the environment?
- (a) Environment will be beautiful
 - (b) There will be no disease
 - (c) There will be no garbage
 - (d) There will be a lot of garbage
- Q.17. An example of the group of heterotrophic plants is:
- (a) Ferns
 - (b) Mosses
 - (c) Algae
 - (d) Fungi
- Q.18. A muscular foot used for locomotion is present in:
- (a) Sea cucumber
 - (b) Snail
 - (c) Prawns
 - (d) Corals
- Q.19. Snakes are not seen in winter because they are:
- (a) Reptiles
 - (b) Creeping animals
 - (c) Cold blooded animals
 - (d) Warm blooded animals
- Q.20. Better growth of plants require:
- (a) Suitable light
 - (b) High temperature
 - (c) Low temperature
 - (d) Less light
- Q.21. With the increase of population and proper use of manpower what will happened?
- (a) Per capita income will increase
 - (b) Resources will be reduced
 - (c) Agricultural product will be reduced

Punjab Examination Commission Class 8th 2011

Science

Part: (A)

Time: 1 Hour 20 Minutes

Marks: 60

(Multiple Choice Questions)

Specific Instructions: Forty (40) Multiple Choice Questions (MCQs) are given in this part. Attempt all questions. All questions carry equal marks.

- Q. 1. Which of the following diseases are heredity in nature:
- (a) Cold & fever (b) T.B & Hemophilia
(c) Thalasemia + Hemophilia
(d) Thalasemia and T.B.
- Q. 2. Genes are present on:
- (a) Chromosomes (b) DNA
(c) Protein (d) Nucleus
- Q. 3. The radiation of sun entered into a greenhouse, could not comes out because they are having:
- (a) Shorter wavelength (b) Medium wavelength
(c) Longer wavelength (d) Infrared region
- Q. 4. The disease is caused due to ozone depletion:
- (a) Respiratory disease (b) Cancer
(c) Heart attack (d) AIDS
- Q. 5. The reason of wildlife distinction may be:
- (a) Acid rain (b) Greenhouse effect
(c) Ozone layer depletion (d) Deforestation
- Q. 6. Which of the following is balanced equation?
- (a) $2\text{Na} + \text{CO}_3 + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O} + \text{CO}_2$
(b) $\text{CaCl} + \text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2$
(c) $\text{Mg} + \text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2$
(d) $\text{Fe} + \text{Cl}_2 \rightarrow \text{FeCl}_3$
- Q. 7. "Matter can neither be created nor destroyed during a chemical reaction but it undergo change

Science

Part: (A)

Time: 1 Hour 40 Minutes

Marks: 60

(Multiple Choice Questions)

Specific instructions: Forty (40) Multiple Choice Questions (MCQs) are given in this part. Attempt all questions. All questions carry equal marks.

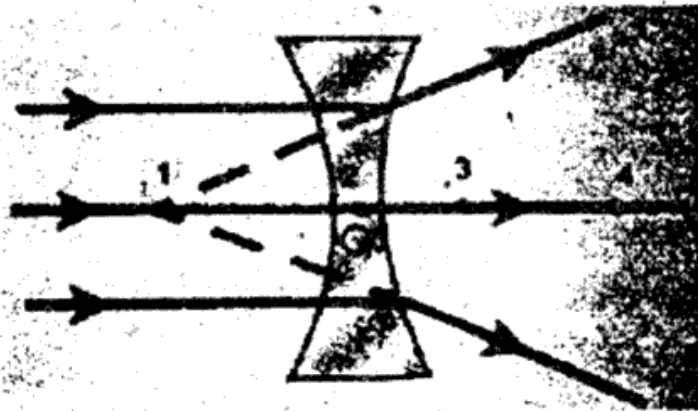
- Q. 1. In the beginning of universe, a tremendous explosion due to which whole condensed matter scattered for away in space was:
- (a) Supernova (b) Black hole
(c) Big Bang (d) Red giant
- Q. 2. The compound used to produce bakery products is:
- (a) Washing Soda (b) Baking Soda
(c) Caustic Soda (d) Soda ash
- Q. 3. Innumerable pieces of rocks revolving around the sun in a belt between Mars and Jupiter are:
- (a) Comets (b) Asteroids
(c) Meteoroids (d) Red Dwarfs
- Q. 4. The presence of excessive mixture of different gases in the air creates:
- (a) Environmental degradation
(b) Weather changes
(c) Green-house effect
(d) Global warming
- Q. 5. The basic causes of environmental degradation are:
- (a) Floods (b) Human activities
(c) Water pollution (d) Forestation

- Q. 6. When we pass carbon dioxide through lime water, milkyness appears due to formation of:
- (a) Calcium Carbonate
 - (b) Magnesium Carbonate
 - (c) Sodium Carbonate
 - (d) Sodium Hydroxide
- Q. 7. What is used in atomic reactors to reduce the speed of neutrons?
- (a) Diamond
 - (b) Water
 - (c) Coke
 - (d) Graphite
- Q. 8. The particles of an atom which take part in ionic bond formation are:
- (a) Electrons
 - (b) Protons
 - (c) Neutrons
 - (d) Positrons
- Q. 9. The chemicals used for the preparation of detergents are:
- (a) Naphtha, Sulphuric acid, Washing Soda
 - (b) Nitric acid, Naphtha, Washing Soda
 - (c) Hydrochloric acid, Naphtha, Baking soda
 - (d) Naphtha, Sulphuric acid, Baking Soda
- Q. 10. The group which contains igneous rocks is:
- (a) Pegmatite, Granite
 - (b) Peat, Coal
 - (c) Gypsum, Lignite
 - (d) Marble, Graphite
- Q. 11. Rock Salt is used in the preparation of:
- (a) Steel and Alloys
 - (b) Coins and Wires
 - (c) Bricks and Electricity
 - (d) Textile and Dry meat
- Q. 12. The bodies in space which can shield the sunlight on earth and may cause the end of life on earth are:
- (a) Asteroids
 - (b) Comets
 - (c) Meteoroids
 - (d) Black holes

- Q. 13. In the universe, in terms of size, how many times smaller and bigger stars than the sun are found:
- (a) 400 times smaller to 900 times bigger
 - (b) 350 times smaller to 1200 times bigger
 - (c) 300 times smaller to 1100 times bigger
 - (d) 450 times smaller to 1000 times bigger
- Q. 14. When the core of a supergiant suddenly collapses it creates a huge explosion light than all other stars of the galaxy, this huge explosion is called as:
- (a) Red Dwarf
 - (b) Black Hole
 - (c) Black Dwarf
 - (d) Supernova
- Q. 15. The number of elements present in the compound $\text{Ca}_3(\text{PO}_4)_2$ are:
- (a) 3
 - (b) 4
 - (c) 5
 - (d) 6
- Q. 16. Overcrowding in cities as compare to villages is mostly due to:
- (a) Greater jobs, more factories and schools
 - (b) Greater jobs, better health facility and education
 - (c) Greater jobs, more playgrounds and hospitals
 - (d) Greater jobs, more food and playgrounds
- Q. 17. A group of animals which produces more wool, meat, milk and eggs as a result of genetic engineering is:
- (a) Cow, buffalo, goat and hen
 - (b) Cow, pigeon, elephant and duck
 - (c) Sheep, buffalo, parrot and hen
 - (d) Elephant, pigeon, parrot and buffalo
- Q. 18. Offspring possess many characters similar to their parents because of:
- (a) Adaptation
 - (b) Cytoplasm
 - (c) Variations
 - (d) Inheritance

- Q. 19. The most best statement about ozone is:
- (a) A gas which envelops the earth
 - (b) A liquid which envelops the earth
 - (c) A liquid which absorbs U.V rays
 - (d) A solid which envelops the earth
- Q. 20. The symbol for the metallic element commonly used in electric wiring at domestic level is:
- (a) Fe
 - (b) Au
 - (c) Cu
 - (d) Ag
- Q. 21. Indicate the group of elements showing variable charges:
- (a) Aluminum and Sodium
 - (b) Copper and Iron
 - (c) Calcium and Potassium
 - (d) Iron and Potassium
- Q. 22. The metal, which liberate hydrogen by reacting with acids is:
- (a) Gold
 - (b) Magnesium
 - (c) Mercury
 - (d) Silver
- Q. 23. You are eating tomatoes, the acid which you are taking is:
- (a) Acetic acid
 - (b) Citric acid
 - (c) Formic acid
 - (d) Oxalic acid
- Q. 24. You are visiting a soap factory, the most probable base which may be present in the factory will be:
- (a) Aluminum hydroxide
 - (b) Calcium hydroxide
 - (c) Lime water
 - (d) Sodium hydroxide
- Q. 25. When calcium carbonate is mixed with sulphuric acid:
- (a) Reaction starts and then stops
 - (b) Reaction does not start
 - (c) Reaction starts and continues
 - (d) Reaction starts after some time

- Q. 26. In a chemical reaction $\text{CaCO}_3 + \text{H}_2\text{SO}_4 \rightarrow$, the products are:
 (a) CaCO_3 and CO_2 (b) H_2SO_4 and CO_2
 (c) H_2O , CO_2 and CaSO_4 (d) CaCO_3 and CaSO_4
- Q. 27. Three cells are connected in series in a circuit. If one cell is removed from this circuit, now with two cells the current in circuit will be:
 (a) Increased (b) Decreased
 (c) Remained Same (d) Become Zero
- Q. 28. An oven uses 1.5 kilo watt hour energy in one hour. Its power consumption in watt will be:
 (a) 1000 (b) 1500
 (c) 2000 (d) 3000
- Q. 29. While heating the water above 0°C up to 4°C the density of water will:
 (a) Keep increasing (b) Keep decreasing
 (c) Remain same (d) Become zero
- Q. 30. In fission reaction, energy is released when atoms are:
 (a) Broken (b) Combined
 (c) Heated (d) Burned
- Q. 31. A beam of light passing through a concave lense is shown in figure. Point "1" in the figure represents:



- (a) Optical Center (b) Center of curvature

- (c) Principal focus (d) Principal axis
- Q. 32. Bacteria cause "fire blight" in:
(a) Apple and Orange (b) Apple and Peach
(c) Pear and Lemon (d) Apple and Potato
- Q. 33. The best suitable area for the installation of cement industry is:
(a) Coastal (b) Plain
(c) Desert (d) Rock
- Q. 34. The rocks in which history of earth is hidden are called:
(a) Intrusive (b) Sedimentary
(c) Extrusive (d) Metamorphic
- Q. 35. The complexion of Saadia's elder and younger sister is less dark. The complexion of Saadia will be:
(a) Dark (b) Fair
(c) Less dark (d) More fair
- Q. 36. The height of Asad whole family is tall and complexion is black. Height and complexion of Asad will be:
(a) Medium height and dark complexion
(b) Short height and dark complexion
(c) Tall with less dark complexion
(d) Tall with dark complexion
- Q. 37. 20°C temperature of water in Fahrenheit scale is:
(a) 20°F (b) 42°F
(c) 68°F (d) 212°F
- Q. 38. "B" is an animal with un-segmented soft body found in moist soil and moves with the help of muscular foot. It will be placed in group:
(a) Sponges (b) Jelly Fishes
(c) Worms (d) Shelled animals
- Q. 39. The non-luminous part of flame is at:



- (a) 1 (b) 2
(c) 3 (d) 4

Q. 40. In the figure, DNA (Chromosome) is represented at:



- (a) 1 (b) 2
(c) 3 (d) 4

Punjab Examination Commission Class 8th 2010

Science

Part: (B)

Time: 1 Hour 20 Minutes

Marks: 40

(Open Ended Questions)

Specific Instructions; This part has 4 Open Ended Questions. Please use blank space give below the question to write the answer.

Q. 41.

- (1) What do you meant by Detergents? (2)

- (2) Give the names of two chemicals required for the preparation of detergents. (4)

- (3) Detergents are better than soap. Explain. (4)

Q. 42.

- (1) Define environmental degradation. (2)

- (2) Explain an example of environmental degradation with the help of diagram. (2)

- (3) Describe in detail, how man is causing environmental degradation. (6)

Q. 43.

- (1) Which is the acid who helps the digestion in human stomach? (2)

- (2) Give two uses of acetic acid. (3)

- (3) Sulphuric acid is the "King of Chemical." Justify this statement. (5)

Q. 44.

- (1) What is meant by thermal expansion of solids? (2)

- (2) Give three examples of thermal expansion of solids from daily life. (3)

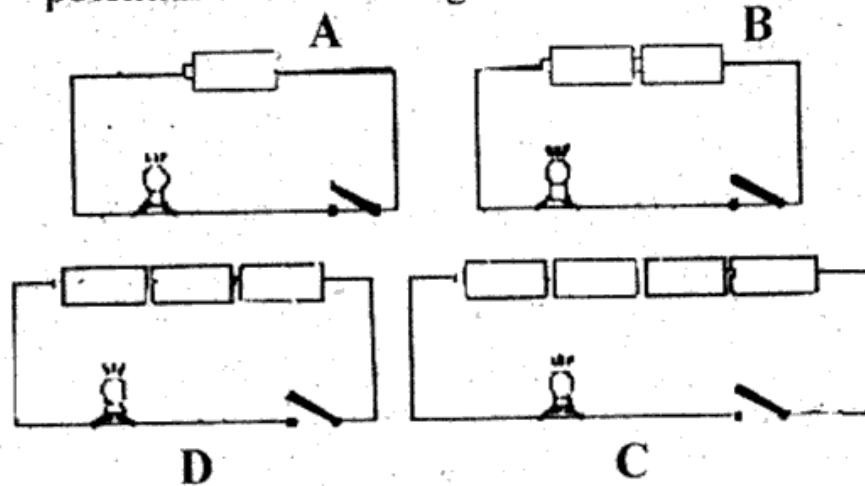
- (3) How can you prove thermal expansion and contraction of solids? (5)

- (d) Problem will be increased
- Q.22. The symbol of chlorine is:
(a) Ca (b) Co
(c) Au (d) Cl
- Q.23. If there exist no chemical bond between two atoms of oxygen, then:
(a) there will be less oxygen in environment
(b) the life of human being and animal will be in danger
(c) ozone layer will be depleted
(d) there will be a huge increase of oxygen in the air
- Q.24. In covalent bonding, two atoms have common:
(a) electrons (b) protons
(c) neutrons (d) nuclei
- Q.25. In compound form, the carbon is found in:
(a) Diamond (b) Graphite
(c) Coal (d) Petroleum
- Q.26. Carbon dioxide turns milky due to formation of:
(a) $\text{Ca}(\text{HCO}_3)_2$ (b) Na_2CO_3
(c) MgCO_3 (d) CaCO_3
- Q.27. The equation for soap preparation is given below:
Sodium Hydroxide + Vegetable oil/ Animal fats
 \rightarrow Soap + ? with soap the by-product obtained along with soap is:
(a) Glycerin (b) Sodium
(c) Hydrogen (d) Oxygen gas
- Q.28. There is a water tank on the roof of fourth story of the building. Water is supplied through a pipe to all the four stories. Which of the stories will have low pressure.
(a) first (b) second
(c) third (d) fourth
- Q.29. The value of 50°C on Fahrenheit scale would be:
(a) 65°F (b) 76°F

(c) 140°F

(d) 122°F

Q.30. Four electric circuits are shown below. The potential difference is greater in the circuit:



(a) A

(b) B

(c) C

(d) D

Q.31. The change of energy take place in a dry cell is:

(a) chemical to electrical

(b) chemical to mechanical

(c) electrical to kinetic

(d) electrical to nuclear

Q.32. In your classroom, there are 4 fans of 100 watt used for 5 hours daily and 3 bulb of 100 watt used for 5 hours daily. The electric power consumed in a day in your classroom is:

(a) 1 KWH

(b) 15 KWH

(c) 25 KWH

(d) 35 KWH

Q.33. Example of intrusive rocks is:

(a) Grannite

(b) Pegmatite

(c) Marble

(d) Basalt

Q.34. Clay gravel, sand stone and chalk, are the example of:

(a) Igneous rocks

(b) Sedimentary rocks

(c) Metamorphic rocks

(d) Intrusive rocks

Q.35. The characteristics estimated by the geologist for animal from their footprint is:

(a) size only

(b) weight only

- (c) size and weight only (d) body structure only
- Q.36. Paleontologist has come to know the reason of changes of climate and server condition with the help of:
- (a) fossils (b) mineral
(c) rocks (d) metals
- Q.37. Which one is used in paint manufacturing and photography?
- (a) Coper (b) Iron
(c) Chromium (d) Topaz
- Q.38. The pieces of rocks revolving around the sun between Mars and Jupiter are called as:
- (a) Asteroids (b) Comets
(c) Meteoroids (d) Dwarfs
- Q.39. The milky way galaxies lies at which lunar year distance from its cenntre:
- (a) 2000 (b) 3000
(c) 4000 (d) 5000
- Q.40. About 15 billion years ago, sudden and tremendous explosion in the huge dense ball of hydrogen happened. This explosion is called:
- (a) Constellation (b) big Bang
(c) Meteoroids (d) Asteroids

Punjab Examination Commission Class 8th 2011

Science

Part: (B)

Time: 1 Hour 10 Minutes

Marks: 40

(Open Ended Questions)

Specific Instructions: This part has 4 Open Ended Questions. Please use blank space giyen below the question to write the answer.

- Q. 41. (a) What is meant by rock? (2)

(b) Write the types of rocks. (4)

(c) How sedimentary rocks are formed? Explain. (4)

Q. 42. (a) Define convex and concave lens. (2)

(b) Write three uses of lenses. (4)

(c) How we can calculate the focal length of convex lens? Explain. (4)

Q. 43. (a) Define acid. (2)

(b) Write three characteristics of acid. (4)
