



ASIA ENGLISH SCHOOL		1 st Term Exam September 2009-10
Secondary /Higher Secondary Section		Date : 11-09-09
Asia Campus, Drive-in Road, Ahmedabad-380054		Time : 3 Hours
Std : X	Sub : Science & Technology	Total Marks : 100

Roll No. _____

Note : There are five questions in this paper.

All are compulsory.

Draw figure wherever necessary

SECTION – A

Answer the following by choosing correct alternative given below each question. (1 mark each.) **[15]**

- (1) What is the size of an integrated circuit transits of ?
[a] 80 nm [b] 90 nm [c] 100 nm [d] 70 nm
- (2) What is the velocity of light in water ?
[a] $3 \times 10^8 \text{ m/s}$ [b] $2.8 \times 10^8 \text{ m/s}$
[c] $3 \times 10^8 \text{ m/s}$ [d] $2.25 \times 10^8 \text{ m/s}$
- (3) Primary colours are _____
[a] Red, blue, yellow [b] Red, orange, yellow
[c] Red, blue, green [d] Red, green, yellow.
- (4) 1 unit of domestic energy is _____
[a] 1 joule [b] 1 watt second
[c] $3.6 \times 10^6 \text{ joules}$ [d] $3.6 \times 10^6 \text{ kwh}$
- (5) Which catalyst is used in preparation of ammonia ?
[a] mercuric oxide [b] Iron oxide
[c] magnesium oxide [d] none of these.
- (6) Steel is mainly an alloy of _____
[a] Iron and carbon [b] aluminum and carbon
[c] Iron and cobalt [d] carbon and manganese.
- (7) What is the molecular formula of magnetite ?
[a] Fe_2O_3 [b] Fe_3O_2 [c] Fe_3O_4 [d] Fe_2O_4
- (8) During photosynthesis electrons are releases from which molecule ?
[a] Electron transport system [b] chloroplast
[c] light [d] all
- (9) Which structure has lignified cell wall ?
[a] Sieve tube [b] Tracheids
[c] Companion cell [d] Sieve cells
- (10) Which hormone functions as a growth promoter ?
[a] Auxin [b] Ethylene
[c] Abscisic acid [d] None
- (11) _____ contains the centres for visual reception.
[a] Frontal lobe [b] Parietal lobe
[c] Temporal lobe [d] Occipital lobe.
- (12) During photosynthesis from where is oxygen released.
[a] carbon dioxide [b] water
[c] hydrogen peroxide [d] carbonic acid
- (13) Name the method used to manufacture bleaching powder.
[a] Solvay process [b] Hansen clever method
[c] Calcining [d] Harber processes.
- (14) If focal length of spherical mirror is 40 cm then its radius of curvature is _____cm.
[a] 80 [b] 20 [c] 10 [d] 5

(P.T.O.)

- (15) 1?A? _____ A
[a] 10^6 [b] 10^3 [c] 10^{23} [d] 10^{26}

SECTION – B

Answer in one sentence. (1 mark each)

[15]

- (16) What is nanoscience ?
- (17) What is the unit of refractive index ?
- (18) What are called complementary colours ?
- (19) State Ohm's law.
- (20) Write the chemical name of plaster of paris.
- (21) What is Molarity ?
- (22) What is the ore of aluminum and state its molecular formula ?
- (23) What is the length of ileum ?
- (24) What are the walls of heart made of ?
- (25) What is hind brain consist of ?
- (26) Who invented the STM ?
- (27) Which colour is formed by mixing red and blue colours ?
- (28) What is pH scale ?
- (29) What is efflorescence ?
- (30) What is galvanized iron ?

SECTION – C

Answer the following questions. (2 marks each)

[24]

- (31) An object is placed between Focus and pole of a concave mirror. Draw ray diagram which shows position and nature of the image.
- (32) When green light incidents on a leaf, it looks green. Why ?
- (33) Write Faraday's principle for electrolysis.
- (34) What are the factors affecting rate of reaction.
- (35) Give the names and chemical formulae for the ores of Iron.
- (36) Explain light phase of photosynthesis.
- (37) Write short note on blood capillaries.
- (38) State the characteristic of hormones.
- (39) An object is placed at 30 cm in front of convex lens of focal length 20 cm. Find its position of image.
- (40) Draw diagram to show dispersion of white light by a glass prism.
- (41) Write advantages of series connections.
- (42) Complete the following reactions.
[a] $NaAlO_2 + 2H_2O \rightarrow ?$
[b] $CaO + H_2O \rightarrow ?$

SECTION – D

Answer the following. (3 marks each)

[21]

- (43) Discuss the characteristics of carbon nanotubes.
- (44) Write short note on near sightedness
- (45) Explain equilibrium constant

OR

Explain dynamic nature of equilibrium.

Contd...3

- (46) Write properties of plaster of paris
- (47) Write a note on magnetic separation.
- (48) Write short note on nutrition in amoeba.
- (49) Write short note on photoperiodism.

OR

Explain tropism in plants.

SECTION – E

Answer the following in detail (5 marks each)

[25]

- (50) Explain lens formula.
- (51) Explain series connections of resistors and derive the formula of equivalent resistance.
- (52) State the types of glass and write their uses.

OR

Explain preparation of washing soda.

- (53) Write physical properties of metals.
- (54) Explain excretion in human beings.

OR

Explain structure of human heart.
