Bihar Judicial Service (Mains) 2014

Elementary General Science · compulsory paper

Time: 3 hours · Full marks: 100

Note: (1) There are five Sections in the question paper. Answer one question from each Section. (2) Marks are indicated against each question.

Section A

1. (a) Define the following: (1×10=10)

(i) Tsunami
(ii) Superphosphate
(iii) Computer virus
(iv) Dialysis
(v) Hybrid seeds
(vi) Genetically modified organism
(vii) Reserve sanctuary
(viii) Insectivorous plants
(ix) Test tube baby
(x) Light year

(b) Differentiate between the following: (2×5=10)

(i) Vegetable oils and Essential oils
(ii) Biogas and LPG
(iii) Urea and Compost fertilizer
(iv) RAM and ROM (computer)
(v) Hardware and Software

2. Answer the following questions: (2×10=20)

(a) Who gave the structure of DNA?
(b) Who discovered penicillin?
(c) Who discovered telephone?
(d) Who discovered dynamite?
(e) Name the man landed first on the moon.
(f) Who prepared the rabies vaccine?
(g) Which metal is present in blood?
(h) What is the nature of X-rays?
(i) Name the largest flower.
(j) Name the disease caused by deficiency of blood.

Section B

3. (a) Explain the basic principle of the following instruments: (4×3=12)

(i) Diesel locomotive
(ii) Microwave oven
(iii) Air conditioner

(b) Answer the following questions: (2×4=8)

(i) What is heavy water?

(ii) Why do leaves appear green?
(iii) Why don't planes leave the earth?
(iv) Why does it take long to cook on mountains in open vessel?

4. (a) Explain the principle of the following: (4×3=12)
(i) RO water purifier
(ii) Desert cooler for cool air
(iii) Pressure cooker to cook food
(b) Write short answer of the following: (2×4=8)
(i) What is a 'sea lion'?
(ii) What are marsupials?
(iii) Is whale a fish or a mammal?
(iv) What substance are nails made of?

Section C

5. Write brief answer of the following: (2×10=20)
(a) Which plant is called "man herb"?
(b) Linseed oil comes from which plant?
(c) What is the full name for PUFA?
(d) Name the material from which biodegradable plastic is made.
(e) Yeast, used in making bread, belongs to which class of plants?
(f) What is better known name for the poison "prussic acid"?
(g) What is the name of yellow metal alloy of copper and zinc?
(h) Name the process used for tyre repair in which sulfur is added to heated rubber.
(i) Where are cryogenic engines used?
(j) What is superconductivity?

6. Write short answer of the following: (2×10=20)
(a) Which are stem cells?
(b) What is called widespread of a disease?
(c) What is osteoporosis?
(d) Name the radioactive element detected in humans.
(e) How is ozone produced in upper atmosphere?
(f) Human eye is most sensitive to which colour in daylight?
(g) Name the first man-made spacecraft to orbit the earth.
(h) Expand GSLV.
(i) Name the rays used in colour TV to produce picture in picture tube.
(j) What is the name of the science that deals with weights and measures?

Section D

7. (a) Differentiate between the following: (2×5=10)
(i) Farming and Organic farming
(ii) Monocot and Dicot
(iii) Parasite and Saprophyte
(iv) Symbiont and Free-living
(v) Velocity and Acceleration

(b) Give brief answer to the following: (2×5=10)
(i) Name the metal ions present in hard water.
(ii) How is rainbow formed?
(iii) Why is a gap left in rail joints?
(iv) Why is the sky blue?
(v) Why is liquid drop round?

8. (a) Give brief answer to the following: (2×5=10)
(i) What are 'liverworts'?
(ii) What are 'endangered species'?
(iii) Why does wood float on water?
(iv) What is 'glacier'?
(v) What is the name of the technology to transfer information through glass fibre?
(b) Match the correct words from two Groups: (1×5=5)
(i) Internet; (ii) Database; (iii) Pdf file; (iv) Pixel; (v) Java
(1) Language; (2) Document; (3) Storage; (4) Picture element; (5) Information
(c) Write very short answer of the following: (1×5=5)
(i) Name the disease having high blood sugar.
(ii) Name the disease having faulty hemoglobin formation.
(iii) What is the use of seismograph?
(iv) Where is SIM card used?
(v) ECG machine is used to understand the function of which organ?

Section E

9. Write short answer of the following: (2×10=20)
(a) Which vitamin is produced by sunlight?
(b) Deficiency of iodine causes which disease?
(c) Give an example of oral vaccine.
(d) In which unit, noise is measured?
(e) Name the toxic compound of tobacco.
(f) Why do people sneeze?
(g) Does bread contain DNA?
(h) What is periodic table?
(i) What is the range of visible wavelength?
(j) What is biodiversity?

10. Write short answer of the following: (2×10=20)
(a) Name the largest photochemical reaction on the planet Earth.
(b) Name the most abundant organic molecule of the planet Earth.
(c) What is natural rubber?
(d) "Roots grow towards centre of the earth". What this phenomenon is called?
(e) How do seasons change on the earth?
(f) Why do hairs turn grey at old age?
(g) What is savanna?
(h) What is fog?

(i) Name the flavour obtained from bean (pods).
(j) What is biodiesel?

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