



CAPF AC PYQ

(SUBJECT WISE)

(Institute for Defence exam)

SUBJECT : SCIENCE

YEAR : 2015

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70. The following item consists of two statements, Statement I and Statement II. Examine these two statements carefully and select the correct answer using the code given below :

Code :

- (a) Both the statements are individually true and Statement II is the correct explanation of Statement I
- (b) Both the statements are individually true but Statement II is NOT the correct explanation of Statement I
- (c) Statement I is true but Statement II is false
- (d) Statement I is false but Statement II is true

Statement I : Catalytic hydrogenation is highest when the catalyst remains in the powdered form

Statement II : When a catalyst is in the powdered form, its surface area becomes highest

77. The radius of a hydrogen atom is 10^{-10} m. Number of hydrogen atoms necessary to have a length of one nanometre is :

- (a) 6.023×10^{23}
- (b) 10
- (c) 5
- (d) 100



The next **two (02)** items are based on the following Table :

No. of students studying in different standards of 6 different schools

Standard \ School	I	II	III	IV	V	VI
A	42	54	48	58	50	38
B	50	60	58	45	45	46
C	40	48	58	46	42	54
D	45	55	46	40	52	50
E	48	55	44	55	52	48
F	51	52	54	42	60	54

71. Which one of the following statements regarding baking powder is **NOT** correct ?

- (a) It is a mixture
- (b) It forms bubbles in a wet mixture
- (c) It can be used instead of using yeast
- (d) It does not contain sodium bicarbonate

The next **two (02)** items are based on the following Table :

The following table shows the frequency distribution of weekly wages of 65 employees :

Wages (in Rupees)	No. of employees
251—260	8
261—270	10
271—280	16
281—290	14
291—300	10
301—310	5
311—320	2

82. Match List-I with List-II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Element)	<i>List-II</i> (Application)
A. Isotope of Uranium	1. Treatment of cancer
B. Isotope of Cobalt	2. Treatment of goitre
C. Isotope of Iodine	3. Treatment of secondary cancer
D. Isotope of Radium	4. Nuclear fuel

Code :

	A	B	C	D
(a)	3	2	1	4
(b)	4	2	1	3
(c)	4	1	2	3
(d)	3	1	2	4

83. Hemocyanin is an oxygen-transport metalloprotein present in some invertebrate animals. This protein contains :

- (a) one copper atom
- (b) two copper atoms
- (c) one iron atom
- (d) one magnesium atom

88. Which one of the following statements is correct ?

- (a) Iron sulphate and copper sulphate crystals have same number of water of crystallization
- (b) Iron sulphate and zinc sulphate crystals have same number of water of crystallization
- (c) Zinc sulphate and copper sulphate crystals have same number of water of crystallization
- (d) Iron sulphate, copper sulphate and zinc sulphate crystals each have same number of water of crystallization

106. The hydrogen atoms present in acetylene molecule are :

- (a) acidic
- (b) basic
- (c) both acidic and basic
- (d) neutral

89. Match List I with List II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Scientist)	<i>List-II</i> (Area of study)
A. J.D. Watson	1. Microbiology
B. Louis Pasteur	2. Taxonomy
C. Carl Linnaeus	3. Molecular Biology
D. Charles Darwin	4. Evolution

Code :

	A	B	C	D
(a)	4	2	1	3
(b)	4	1	2	3
(c)	3	1	2	4
(d)	3	2	1	4

107. Which one of the following compounds is NOT considered an acid ?

- (a) BF_3
- (b) AlCl_3
- (c) NH_3
- (d) $\text{C}_6\text{H}_5\text{OH}$



111. Movement of outer electrons in the inner orbits of an atom produces :

- (a) α -ray
- (b) β -ray
- (c) γ -ray
- (d) x-ray



112. γ -ray consists of :

- (a) meson particles
- (b) neutrino particles
- (c) Higg's boson
- (d) electromagnetic waves

113. The heaviest element known up till January 2015 has the atomic number :

- (a) 117
- (b) 118
- (c) 119
- (d) 120



121. Heavy water of an atomic reactor is :

- (a) deionised water
- (b) an oxide of heavier isotope of oxygen
- (c) a mixture of ice and water
- (d) an oxide of heavier isotope of hydrogen

122. In a radioactive decay of a nucleus, an electron is also emitted. This may happen due to the fact that :

- (a) electrons are present inside a nucleus
- (b) an electron is created at the time of conversion of a neutron into proton
- (c) an electron is created at the time of conversion of a proton into a neutron
- (d) electrons need to be emitted for conservation of momentum

The next **three (03)** items have two premises and two conclusions. If the premises are assumed to be true (irrespective of factuality), then, in respect of each of the items given below, which of the following conclusions follow logically ?

- (a) Only I
- (b) Only II
- (c) Both I and II
- (d) Neither I nor II

