

ALL KERALA BHAVAN'S SCHOLARSHIP EXAMINATION 2015-2016

CLASS: XI (SCIENCE)

TIME: 90 Min.

MARKS: 100

SECTION - A

ENGLISH

1. One who runs away from justice or the law is called a _____.
a) alien b) recluse c) itinesant d) fugitive
2. Choose the correct antonym for the word 'summit'.
a) inferior b) native c) base d) rare
3. Pick out the author of the poem 'the voice of the rain'.
a) Kamala Das b) Sherly Toulson
c) Walt Whitman d) Elizabeth Jennings
4. Which of the following words is the synonym of 'despotic'?
a) versatile b) crippling c) liberated d) tyrannical
5. Pick out the word which means the same as 'come to terms with'.
a) agree b) accomodate c) conclude d) tolerate
6. Find the antonym of the word 'haphazard'.
a) comfort b) systematic c) indisciplined d) logical
7. His heart attack was brought _____ by too much stress of work
a) on b) into c) out d) over
8. The meaning of the ' phrase' inter-alia is _____.
a) among other things b) among enemies
c) in addition to d) between enemies

PHYSICS

9. The velocity 'V' of a particle at time 't' given by $V = at + \frac{b}{t+c}$. The dimension of a, b, c are respectively:
a) LT^{-2}, L, T b). $L^2, T, LT^2,$ c) LT^2, LT, L d) L, LT, T^2
10. What will be the effect on horizontal range of a projectile when its initial velocity is doubled keeping the angle at projector same, it becomes _____.
a) 4 times b) 8 times c) 2 times d) 10 times
11. A mass 'm' is moving with constant velocity along a line parallel to x-axis away from the origin. Its angular momentum with respect to origin _____.
a) is zero b) is constant
c) goes on decreasing d) goes on increasing

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12. A physical quantity $\rho = a^3b^2 / c^2d$. The % error in measurement of a, b, c and d are 1%, 3%, 4% and 2% respectively. What is the percentage error in density ρ ?
 a) 24% b) 12% c) 8% d) 10%
13. A man weighs 80kg. He stands on a weighing scale in the lift, which is moving upwards with a uniform acceleration of 5m/s^2 . What would be the reading on the scale?
 a) Zero b) 400N c) 800N d) 1200 N
14. The radii of circular orbit of two satellites A and B of the earth are $4R$ and R respectively. If the speed of A is $3v$, then speed of satellite B will be _____.
 a) $3v/4$ b) $6v$ c) $12v$ d) $3v/2$
15. A thin horizontal circular disc is rotating about a vertical axis passing through its centre. An insect is at a point near the rim of the disc. The insect now moves along a diameter of the disc to reach its other end. During the journey of the insect, the angular speed of the disc:
 a) remains unchanged b) continuously decreases
 c) continuously increases d) first increases and then decreases
16. A car covers the first half of the distance between two places at 40km/hr and the other half at 60km/hr . The average speed of the car is _____.
 a) 40km/hr b) 48km/hr c) 50km/hr d) 60km/hr

CHEMISTRY

17. When the temperature is increased, surface tension of water _____.
 a) increases b) decreases
 c) remains constant d) shows irregular behaviour
18. A process in which no heat is transferred to and from the system is called _____.
 a) Isothermal b) adiabatic c) isochoric d) isolated
19. Deuterium nucleus contains _____.
 a) $1p + 1n$ b) $2p + 0n$ c) $1p + 1\bar{e}$ d) $2p + 2n$
20. The electronic configuration of Cu^{2+} ion is _____.
 a) $[\text{Ar}] 4s^13d^8$ b) $[\text{Ar}] 4s^23d^{10}4p^1$ c) $[\text{Ar}] 4s^13d^{10}$ d) $[\text{Ar}]3d^9$
21. Considering the elements B, Al, Mg and K, the correct order of their metallic character is _____.
 a) $B > \text{Al} > \text{Mg} > \text{K}$ b) $\text{Al} > \text{Mg} > \text{B} > \text{K}$ c) $\text{Mg} > \text{Al} > \text{K} > \text{B}$ d) $\text{K} > \text{Mg} > \text{Al} > \text{B}$
22. Which of the following has net dipole moment?
 a) CCl_4 b) BF_3 c) NH_3 d) CO_2
23. The number of antibonding electrons in O_2^- molecular ion is _____.
 a) 8 b) 6 c) 5 d) 4
24. Among the following the paramagnetic compound is _____.
 a) Na_2O_2 b) O_3 c) N_2O d) KO_2

GENERAL KNOWLEDGE

25. Mr. Sanjiv Chaturvedi and Mr. Anshu Gupta received a very prestigious award recently. Name the award.
- a) Gandhi peace prize
b) Rajiv Gandhi Sadbhav Award
c) Nobel peace prize
d) Ramon Magsaysay Award
26. The power to decide an election petition for the state is vested in the _____.
- a) Parliament
b) Supreme Court
c) High Court
d) Election High Commission
27. Which is the world's largest country with a single time zone?
- a) Russia
b) China
c) England
d) India
28. Which is the largest river in Asia?
- a) Ganga
b) Brahmaputra
c) Yangtze
d) Bias
29. In which country Buffalo Park Cricket Stadium is situated?
- a) South Africa
b) New Zealand
c) India
d) Australia

I.Q

30. The mean of four numbers a, b, c, d is 100. If $c=70$, then mean of remaining numbers is _____.
- a) 30
b) $85/2$
c) $170/3$
d) 110
31. Vehicle is coded as book, book as flower, flower as sweet, sweet as house, house as temple, then where is the treasure of huge amount of knowledge hidden?
- a) book
b) sweet
c) vehicle
d) flower
32. If A is south of B and C is to the east of B, in what direction is A with respect to C?
- a) northwest
b) southwest
c) northeast
d) southeast
33. Isotherm is to temperature as isobar is to _____.
- a) atmosphere
b) latitude
c) wind
d) pressure
34. Karim ranks 16th from the top in a class of 49 students. What is his rank from the bottom?
- a) 33rd
b) 34th
c) 36th
d) cannot be determined

SECTION - B

Section B comprises 4 parts - Part I, Part II, Part III and Part IV
Answer any two parts only of Section B

PART-I - MATHEMATICS

1. Domain of the function $f(x) = \frac{1}{\sqrt{2x-3}}$ is _____.
- a) $\mathbb{R} - \{3/2\}$
b) $(3/2, \infty)$
c) $[3/2, \infty)$
d) None of these

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2. If a, b, c are real numbers such that $a \geq b, c > 0$, then
 a) $ac \leq bc$ b) $ac \geq bc$ c) $ac > bc$ d) $ac < bc$
3. If the coefficients of x^7 and x^8 in the expansion of $(2 + \frac{1}{3x})^n$ are equal, then
 $n = \frac{\quad}{\quad}$
 a) 56 b) 15 c) 45 d) 55
4. The value of $\frac{1 - \tan^2 15^\circ}{1 + \tan^2 15^\circ}$ is _____
 a) 1 b) 3 c) $\sqrt{3}/2$ d) 2
5. Everybody in a room shakes hands with everybody else. The total number of handshakes is 66. The total number of persons in the room is _____
 a) 11 b) 12 c) 13 d) 14
6. If $(\frac{1+i}{1-i})^x = 1$, then find 'x' for all $n \in \mathbb{N}$?
 a) $x = 2n+1$ b) $x = 4n$ c) $x = 2n$ d) $x = 4n+1$
7. If $|\frac{z-2}{z-4}| = 1$, then $\text{Re}(z)$ is equal to _____
 a) 3 b) 0 c) -3 d) None of these
8. Solution set of $|\frac{2}{x-4}| > 1, x \neq 4$ is _____
 a. $(2, 4) \cup (4, 6)$ b) $[2, 4) \cup (4, 6]$ c) $[2, 4] \cup [4, 6]$ d) None of these

PART - II - BIOLOGY

1. Healing of wounds in plants takes place by the activity of _____
 a) apical meristem b) lateral meristem
 c) secondary meristem d) intercalary meristem
2. Which of the following is known as 'Peatmoss'?
 a) Sphagnum b) Funaria c) Polytrichum d) Marchantia
3. Dissolution of synaptonemal complex takes place in _____
 a) pachytene b) diplotene c) zygotene d) leptotene
4. Proenzyme pepsinogen is secreted by _____
 a) mucus cells b) parietal cells c) chief cells d) oxyntic cells
5. Among the following which one is a urochordata?
 a) amphioxus b) ascidia c) adamsia d) ophiures
6. The most abundant protein in animal world is _____
 a) insulin b) collagen c) trypsin d) haemoglobin
7. Class of enzyme contained in lysosome is _____
 a) lyases b) ligases c) hydrolases d) transferases

7. Identify the correct statement.

- a) select * from emp where ename=NULL;
- b) select * from emp where ename is NULL;
- c) select * from emp where ename in NULL;
- d) select * from emp where ename="NULL";

8. Identify the RDBMS software from the following:

- a) Oracle
- b) Java
- c) SQL
- d) Windows

TIE BREAKER

1. Aram considered his cousin Mourad as the natural descendant of whom?

- a) Zoral
- b) khosrove
- c) John Byre
- d) Fetvajin

2. What is the relation between orbital and escape velocity?

- a) $V_e = 2V_o$
- b) $V_e = \sqrt{2} V_o$
- c) $V_e = \frac{V_o}{2}$
- d) $V_e = \frac{V_o}{\sqrt{2}}$

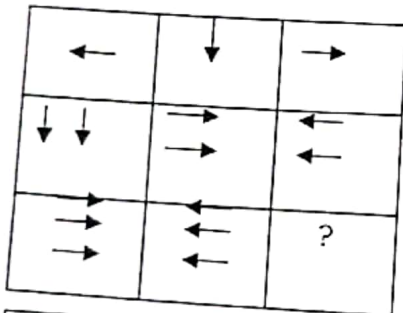
3. A gas will approach ideal behaviour;

- a) low temperature and low pressure
- b) low temperature and high pressure,
- c) high temperature and high pressure
- d) high temperature and low pressure.

4. Sabin Award is given for the conservation of _____.

- a) amphibians
- b) reptiles
- c) birds
- d) corals

5. Which is the missing tile?



- a)
- b)
- c)
- d)
