



N-SCORE-2022

CLASS – XII-PASS-PCB: - (Physics, Chemistry, Botany & Zoology)
(Class XII Moving to XII-PASS)

(SET-2) **N-SCORE TEST**

Time Duration: 1 Hour

Maximum marks: 180

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.

INSTRUCTIONS:

1. This question paper contains 45 questions: Physics (Q. No. 1 to Q. No. 12), Chemistry (Q. No. 13 to Q. No. 25), Botany (Q. No. 26 to Q. No. 35), Zoology (Q. No. 36 to Q. No. 45)
2. There will be individual qualifying cut-offs for all sections.
3. **For Each correct answer 4 marks will be awarded. No Negative Marking.**
4. Use OMR-Sheet for answering
5. Use HB Pencil / Pen to darken the circles.
6. If you wish to change your answer, erase the already darkened circle completely and then darken the appropriate circle.
7. Use of a calculator and mobile phone is strictly prohibited during the exam.

TO BE FILLED IN CAPITAL LETTERS

NAME OF THE STUDENT : _____

FATHER'S NAME : _____

CONTACT NUMBER: _____ **SCHOOL NAME :** _____

ROLL NO. : _____ **TEST CENTRE :** _____

I have read all the instructions and shall abide by them

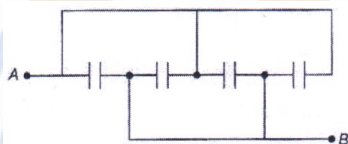
.....
Signature of Candidate

I have verified all the information filled in by the Candidate

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Signature of Invigilator

PHYSICS

1. X-ray are not used for radar purpose, because they are not
 (A) Reflected by target (B) Partly absorbed by target
 (C) Electromagnetic waves (D) Completely absorbed by target
2. Two charges are placed at certain distance apart. A perfectly insulating sheet is placed between them. The force between them will
 (A) Increases (B) Decreases
 (C) Remains unchanged (D) None of these
3. If two mirrors are kept at 60° to each other, then the number of images found by them is
 (A) 5 (B) 6 (C) 7 (D) 8
4. Four condensers are joined as shown in the adjoining figure. The capacity of each is $8\mu F$. The equivalent capacity between the points A and B will be



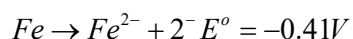
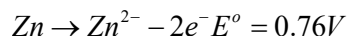
- (A) $32\mu F$ (B) $2\mu F$ (C) $8\mu F$ (D) $16\mu F$
5. There are five equal resistors. The minimum resistance possible by their combination is 2 ohm. The maximum possible resistance we can make with them is
 (A) 25 ohm (B) 50 ohm (C) 100 ohm (D) 150 ohm
 6. A proton of mass m and charge q is moving in a plane with kinetic energy E . If there exists a uniform magnetic field B , perpendicular to the plane of the motion, the proton will move in a circular path of radius
 (A) $\frac{2Em}{qB}$ (B) $\frac{\sqrt{mE}}{qB}$ (C) $\frac{\sqrt{mE}}{2qB}$ (D) $\frac{\sqrt{2mE}}{qB}$
 7. In Young's double slit experiment, first slit has width four times the width of the second slit. The ratio of the maximum intensity to the minimum intensity in the interference fringe system is
 (A) 2 : 1 (B) 4 : 1 (C) 9 : 1 (D) 8 : 1

Space for rough work

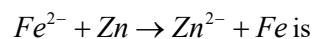
8. The rest mass of the photon is
 (A) 0 (B) ∞
 (C) Between 0 and ∞ (D) Equal to that of an electron
9. A current of $\frac{25}{\pi}$ Hz frequency is passing through an AC circuit having series combination of $R = 100 \Omega$ and $L = 2 \text{ H}$, the phase difference between voltage and current is
 (A) 90° (B) 60° (C) 30° (D) 45°
10. In a magnetic field of 0.05 T, area of a coil changes from 101 cm^2 to 100 cm^2 without changing the resistance which is 2Ω . The amount of charge that flows through the coil is
 (A) $2.5 \times 10^{-6} \text{ C}$ (B) $2 \times 10^{-6} \text{ C}$ (C) 10^{-6} C (D) $8 \times 10^{-6} \text{ C}$
11. In a hydrogen atom, which of the following electronic transitions would involve the maximum energy change
 (A) From $n = 2$ to $n = 1$ (B) From $n = 3$ to $n = 1$
 (C) From $n = 4$ to $n = 2$ (D) From $n = 3$ to $n = 2$
12. Semiconductor material having fewer free electrons than pure germanium or silicon is
 (A) p -type (B) n -type
 (C) Both (a) and (b) (D) None of these

CHEMISTRY

13. Primary and secondary alcohols on action of red hot copper give
 (A) Aldehydes and ketones respectively (B) Ketones and aldehydes respectively
 (C) Only aldehydes (D) Only ketones
14. Lucas test is done for
 (A) alkyl halides (B) alcohols (C) acids (D) aldehydes
15. The standard electrode potentials for the half cell reactions are:



The emf of the cell reaction



- (A) -0.35 V (B) +0.35 V (C) -1.17 V (D) +1.17 V

Space for rough work

16. The order of reactivities of the following alkyl halides for a S_N^2 reaction is
(A) $RF > RCl > RBr > RI$ (B) $RF > RBr > RCl > RI$
(C) $RCl > RBr > RF > RI$ (D) $RI > RBr > RCl > RF$
17. The correct sequence of decrease in the bond angle of the following hydrides is - :
(A) $NH_3 > PH_3 > AsH_3 > SbH_3$ (B) $NH_3 > AsH_3 > PH_3 > SbH_3$
(C) $SbH_3 > AsH_3 > PH_3 > NH_3$ (D) $PH_3 > NH_3 > AsH_3 > SbH_3$
18. Phosphine is not obtained by the reaction when -
(A) White P is heated with NaOH (B) Red P is heated with NaOH
(C) Ca_3P_2 reacts with water (D) P_4O_6 is boiled with water
19. How many ions are produced from the complex $Co(NH_3)_6Cl_2$ in solution?
(A) 6 (B) 4 (C) 3 (D) 2
20. $a \neq b \neq c, \alpha = \gamma = 90^\circ, \beta \neq 90^\circ$ represents -
(A) tetragonal system (B) orthorhombic system
(C) monoclinic system (D) triclinic system
21. An alloy of copper, silver and gold is found to have copper constituting the fcc lattice. If silver atoms occupy the edge centres and gold is present at body centre, the alloy has a formula -
(A) Cu_4Ag_2Au (B) Cu_4Ag_4Au
(C) Cu_4Ag_3Au (D) $CuAgAu$
22. Molal depression of freezing point of water is $1.86^\circ C$ per 1000g of water. 0.02 mole of urea dissolved in 100g of water will produce a lowering of temperature of -
(A) $0.186^\circ C$ (B) $0.372^\circ C$
(C) $1.86^\circ C$ (D) $3.72^\circ C$
23. The rate constant of zero-order reactions has the unit
(A) s^{-1} (B) $mol L^{-1} s^{-1}$ (C) $L^2 mol^{-2} s^{-1}$ (D) $L mol^{-1} s^{-1}$
24. Choose the correct relationship for α -D-glucose (A) and β -D-glucose (B)–
(A) A and B are anomers
(B) A is an aldose and B is ketose.
(C) A is a pyranose sugar and B is a furanose sugar
(D) None of these

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25. The acidic group in glycine is–
(A) –COOH (B) –COO[–] (C) –NH₂ (D) NH₃[⊕]

BOTANY

26. The tendency of an offspring to resemble its parent is known as
(A) Variation (B) Heredity (C) Resemblance (D) Inheritance
27. Who is known as the “Father of Genetics”?
(A) Morgan (B) Mendel (C) Watson (D) Bateson
28. The alternate form of a gene is
(A) Alternate type (B) Recessive character
(C) Dominant character (D) Allele
29. The genotypic ratio of a monohybrid cross is
(A) 1:2:1 (B) 3:1 (C) 2:1:1 (D) 9:3:3:1
30. The crossing of F₁ to either of the parents is known as
(A) Test cross (B) Back cross (C) F₁ cross (D) All of the above
31. Functional megaspore in a flowering plant develops into
(A) Endosperm (B) Ovule (C) Embryo-sac (D) Embryo
32. Which of the following is similar to autogamy, but requires pollinators?
(A) Geitonogamy (B) Cleistogamy (C) Apogamy (D) Xenogamy
33. What is the function of the filiform apparatus?
(A) Guide the entry of pollen tube
(B) Recognize the suitable pollen at the stigma
(C) Produce nectar
(D) Stimulate division of the generative cell
34. A mass of nutritive material outside the embryo sac is called _____.
(A) Protoplasm (B) Pericarp (C) Ectoderm (D) Perisperm
35. Which of the following statements is correct?

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- (A) Sporogenous tissue is haploid
- (B) The hard outer layer of pollen is called intine
- (C) Tapetum nourishes the developing pollen
- (D) Microspores are produced by endothecium

ZOOLOGY

36. Which of the following hormone levels will cause release of ovum (ovulation) from the Graffian follicle?
- (A) High concentration of Estrogen
 - (B) High concentration of Progesterone
 - (C) Low concentration of LH
 - (D) Low concentration of FSH
37. The acrosomal reaction of the sperm occurs due to
- (A) Its contact with zona pellucida of the ova
 - (B) Reactions within the uterine environment of the female
 - (B) Reactions within the epididymal environment of the male
 - (D) Androgens produced in the uterus
38. Fertilization in humans is practically feasible only if
- (A) the ovum and sperms are transported simultaneously to ampullary-isthmic junction of the cervix
 - (B) the sperms are transported into cervix within 48 hrs of release of ovum in uterus
 - (C) the sperms are transported into vagina just after the release of ovum in fallopian tube
 - (D) the ovum and sperms are transported simultaneously to ampullary-isthmic junction of the fallopian tube

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39. Match the following column?

Column I**Column II**

- | | |
|--------------------|---|
| A. Trophoblast | (i) Embedding of the blastocyst in the endometrium |
| B. Cleavage | (ii) Group of cells that would differentiate as embryo |
| C. Inner cell mass | (iii) The outer layer of blastocyst attached to the endometrium |
| D. Implantation | (iv) Mitotic division of the zygote |

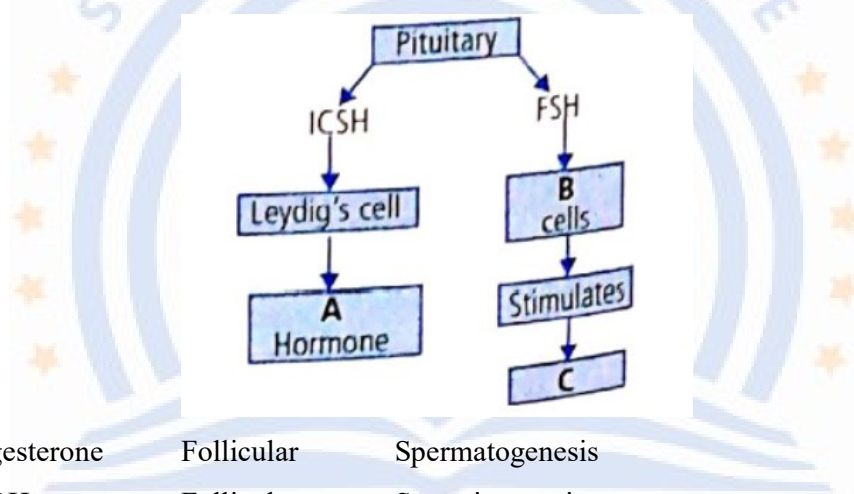
(A) A-ii, B-i, C-iii, D-iv

(B) A-iii, B-iv, C-ii, D-i

(C) A-iii, B-i, C-ii, D-iv

(D) A-ii, B-iv, C-iii, D-i

40. Given below is an incomplete flow chart showing influence of hormones on gametogenesis in males. Observe the flow chart carefully and identify A, B and C.



- | | | |
|------------------|------------|-----------------|
| (A) Progesterone | Follicular | Spermatogenesis |
| (B) GnRH | Follicular | Spermiogenesis |
| (C) GnRH | Sertoli | Spermatogenesis |
| (D) Androgens | Sertoli | Spermiogenesis |

41. The complication of the STDs includes

- | | | |
|------------------------|----------------|---------------------------------|
| a. PID | b. Abortions | c. Still birth |
| d. Ectopic pregnancies | e. Infertility | f. Cancer of reproductive tract |

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- (A) a, b, c and d (B) a, b, c, and e (C) b, c, d, e and f (D) All of these
42. GIFT is transfer of
(A) Gamete into fallopian tube
(B) Embryo into uterus
(C) Mixture of sperm and ova into fallopian tube
(D) Mixture of sperms and ova into uterus
43. Read the following statements and find out the incorrect statements
a. Vasectomy prevent sperm formation
b. Sexually transmitted diseases are not transmitted by blood transfusion
c. Oral pills are very popular contraceptive among the rural women
d. In E. T. techniques, embryos are always transferred into the uterus
(A) a and c (B) b and d (C) b, c, and d (D) a, b, c and d
44. Hepatitis –B and HIV can be transmitted from one person to other by
(A) Sharing of injection needles, surgical instruments, etc, with infected person
(B) Transfusion of blood
(C) From infected mother to the foetus
(D) All of the above
45. Which of the following is incorrect regarding ART?
(A) Sperms are taken from healthy donor male and inseminated into recipient female's vagina
(B) Sperms are taken from healthy husband and inseminated into his wife's vagina after ovulation
(C) ZIFT- embryo upto 8 blastomeres is transferred into fallopian tube
(D) IUT - Embryo after 8 blastomeres is transferred into uterus



Space for rough work