Atal Medical & Research University, H.P.

(A State Govt. University)

(SLBS Govt. Medical College & Hospital Campus, Ner Chowk, Mandi, H.P.)

Website:- www.amruhp.ac.in , Email: coemedicaluniv.mandi@gmail.com, Phone No. 01905-243967

Answer keys

for CET (Non-Medical) for B. Pharmacy (Ayurveda) Entrance test

Paper Code-2505

held on 11th June, 2025

Evening Shift (02:00 PM to 04:00 PM)

If a candidate does not satisfy with the key answers, he/she can make representation with documentary proof to the COE, Atal Medical and Research University, HP, at Nerchowk, Distt. Mandi, HP-175008 through email on coemedicaluniv.mandi@gmail.com up to 13.06.2025 by 05:00 PM and thereafter, no representation will be entertained under any circumstances.

-Sd/-
(Dr. Parveen Kumar Sharma)
Controller of Examinations
Atal Medical & Research University, HP,
Ner Chowk, Distt. Mandi.

(To be filled by the candidate) **Booklet S. No. _____**

Roll No. (In figures) _____

Roll No. (In words) _____

_____

Name of the Candidate : _____

Father's Name : _____

Center of Examination : _____

Total No. of Questions : 100

Paper Code- 2505

Time Allowed : 2 Hours **Maximum Marks : 100**

IMPORTANT NOTE:

(i) OMR Answer Sheet will be supplied by the Examination Centre Superintendent for answering the questions.

(ii) Use **Blue/Black Ink/ Ball Pen only**, to darken the appropriate circle in the OMR Answer Sheet.

(iii) Darken one circle deeply for each question in the OMR Answer Sheet, as faintly darkened circle might be rejected by the Optical Scanner.

(iv) Darkening of more than one circle shall be rejected by the scanner. **Over-writing, cutting, erasing or use of White Fluid is not allowed.**

(v) Before dealing with the question paper, fill-up the required information with Blue/Black Ball Pen correctly both in the Question Booklet and in the OMR Answer Sheet.

(vi) Do not fold the OMR Answer Sheet nor put any mark here and there to avoid rejection by the Optical Scanner.

(vii) Write Roll. No. carefully on the OMR Answer Sheet and darken the appropriate circle properly.

(viii) **Each question carries One Mark. There will be No Negative Marking.**

(ix) **Use of Calculator is not allowed.**

(x) **No over-writing, cutting, erasing or use of white fluid is allowed.**

(xi) Rough work be done on the sheet(s) at the end.

(xii) **MOBILE TELEPHONES (EVEN ON SWITCH-OFF MODE) AND SUCH OTHER ELECTRONIC DEVICES ARE NOT ALLOWED INSIDE THE EXAMINATION HALL.**

(xiii) The question paper-booklet will be retained by the candidate after the entrance test is over.

(xiv) Question No 1 - 40 is Math, 41 – 70 is Chemistry and 71 - 100 is Physics.

Rough Page

Math

Q1. If A and B are two disjoint sets then A∩B is

a) Universal set
b) empty set
c) A
d) None

Ans : B

Q2. If $n_{c_6} = n_{c_7}$ then n is

a) 3
b) 13
c) 5
d) 4

Ans : B

Q3. Cos$\left(\frac{\pi}{2} + x\right)$= ?

a) Sinx
b) cosx
c) -sinx
d) tanx

Ans : C

Q4. Principal value of $\tan^{-1} 1$ is

a) $\frac{\pi}{2}$
b) $\frac{\pi}{4}$
c) $-\frac{\pi}{2}$
d) $-\frac{\pi}{4}$

Ans : B

Q5. The value of $\hat{\imath}.(\hat{\jmath} \times \hat{k}) + \hat{\jmath}.(\hat{\imath} \times \hat{k}) + \hat{k}.(\hat{\imath} \times \hat{\jmath})$ is

a) 0
b) -1
c) 1
d) 3

Ans : C

Q6. If P(A) = $\frac{5}{6}$

then P($\bar{A}$) (Probability not A)

a) 0
b) $\frac{7}{6}$
c) 2
d) $\frac{1}{6}$

Ans : D

Q7. If P(A)= $\frac{7}{13}$ $P(B) = \frac{9}{13}$

and P(A∩B)= $\frac{4}{13}$

a) $\frac{5}{9}$

b) $\frac{9}{4}$

c) $\frac{9}{7}$

d) $\frac{7}{7}$

Ans :A

Q8. $\int \cos x \, dx$ = ?

a) sinx

b) tanx

c) -sinx

d) Cosx

Ans : A

Q9. Integration of $\text{cosec}^2 x$ is :

a) -cosx + c

b) -sinx + c

c) $-cotx$ + c

d) None

Ans : C

Q10. Value of i(iota)

a) 0

b) $\sqrt{-1}$

c) -1

d) 1

Ans : B

Q11. Value of i^8 = ?

a) 1

b) -1

c) $\sqrt{-1}$

d) 4

Ans : A

Q12. If n=7 and r=4 then value of n_{c_r} is

a) 45

b) 50

c) 35

d) 100

Ans : C

Q13. The series a, ar, ar^2 ……..is

a) AP
b) GP
c) HP
d) None of these

Ans : B

Q14. 10^{th} term of GP 3,9,27,81 ……is

a) 3^5
b) 10^3
c) 3^{10}
d) 3^3

Ans : C

Q15. General equation of ellipse is

a) ax + by + c=0
b) $y^2 = 4ax$
c) y =mx + c
d) $\frac{x^2}{a^2} + \frac{y^2}{b^2}=1$

Ans : D

Q16. Vertex of Parabola $y^2=16x$ is

a) (-9,0)
b) (0,4)
c) (0,0)
d) (1,!)

Ans : C

Q17. The value of $\lim_{x\to 0} \frac{tanx}{x}$ =?

a) X
b) 1
c) 0
d) ∞

Ans : B

Q18. Derivative of tanx is

a) $Cosec^2x$
b) Secx tanx
c) Sec^2x
d) Cosx

Ans : C

Q19. Slope of Line -3x+2y=7 is

a) $\frac{3}{2}$

b) $\frac{2}{3}$

c) $\frac{7}{2}$

d) All of These

Ans : A

Q20. Find $\frac{dy}{dx}$ if x= ACosθ Y=BCosθ

a) B/A

b) A/Bs

c) 1

d) None of These

Ans : A

Q21. Which is true for inverse of Matrix A and B

a) $A^{-1}.B^{-1}= B.A$

b) AB=BA

c) $(AB)^{-1}=B^{-1}A^{-1}$

d) None

Ans : C

Q22. The product of two Matrix A.B=I

Then which is true about A and B

a) A=B

b) $A=B^{-1}$

c) $AB=(AB)^{-1}$

d) None of these

Ans : B

Q23. $\int Secx.(Secx + tanx)dx$ =?

a) Tanx + Secx + C

b) Tanx

c) Tan^2x

d) 1

Ans : A

Q24. Distance between two point $A(x_1,y_1)$ and $B(x_2,y_2)$

a) $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

b) $\sqrt{x_1^2 + y_1^2}$

c) $\sqrt{x_1^2 \text{ X } y_1^2}$

d) xy

Ans : A

Q25. Which is Ir-ration Numbers

a) π

b) $\sqrt{2}$

c) $\sqrt{\frac{1}{3}}$

d) All of these

Ans : D

Q26. $\frac{tanx+tany}{1-tanx\ tany}$ is equal to

a) Tan(x-y)

b) Sin(x-y)

c) Tan(x+y)

d) Sin (x+y)

Ans : C

Q27. Total No's of term in Binomial expansion $(x+y)^6$

a) 6

b) 7

c) 8

d) 9

Ans : B

Q28. $(100+1)^4$ fifth term of this Binomial expansion accordingly by term

a) 1

b) 100

c) 1000000

d) 1000

Ans : A

Q29. Which Series is G.P

a) 2,4,6,8_ _ _ _

b) 1,3,5,7_ _ _ _

c) 1,2,3,4_ _ _ _

d) 5,25,625,3125 _ _ _ _

Ans : D

Q30. Geometric mean of a and b is

a) $\frac{a+b}{2}$

b) $\sqrt{ab}$

c) $\frac{a-b}{2}$

d) $(ab)^2$

Ans : B

Q31. Y=tan45^o Then $\frac{dy}{dx}$ is

a) $Sec^2 45^0$

b) 1

c) $Tan45^o$

d) 0

Ans : D

Q32. Y=f(x) is one - one. If $x_1=x_2$ Then

a) $f(x_1)=f(x_2)$

b) $f(x_1)\neq f(x_2)$

c) $f(x_1)\ f(x_2)=0$

d) None of these

Ans : A

Q33. If $\vec{A}$ *and* $\vec{B}$ are perpendicular then

a) $\vec{A}.\vec{B}=0$

b) $\vec{A}+\vec{B}=0$

c) $\vec{A}\ X\ \vec{B}=0$

d) $\frac{\vec{A}}{\vec{B}}=0$

Ans : A

Q34. Volume of spere of radius P is

a) P^3

b) $\frac{2}{3}\pi P^3$

c) $2\pi P^3$

d) $\frac{4}{3}\pi P^3$

Ans : D

Q35. Equation of circle which pass through origin and radius 'r' is

a) $X^2+y^2=r^2$

b) $X^2+y^2=0$

c) x = y

d) xy = 0

Ans : A

Q36. If roots of Quadratic equation $ax^2+bx+c=0$ is equal then

a) $b^2-4ac=0$

b) $b^2-4ac>0$

c) $b^2-4ac<0$

d) $b^2-4ac=1$

Ans : A

Q 37. If $f(x) = 6x^2 - 9$ then f(-2) is

a) 15
b) 6
c) 24
d) 23

Ans : A

Q 38. If set A has 3 elements then A^2 has

a) 6, elements
b) 9, elements
c) 0, elements
d) 100, elements

Ans : B

Q39. $\lim_{x \to 7} \frac{x^2_{-49}}{x-7}$ is equal to

a) 14
b) 7
c) 21
d) 49

Ans : A

Q40. Determinants of Matrix A = $\begin{bmatrix} 2 & 4 \\ -5 & -1 \end{bmatrix}$ is

a) 11
b) 19
c) 18
d) 0

Ans : C

Chemistry

Q41. Which metal is used in Ullmann reaction?

(a) Na
(b) Mg
(c) Cu
(d) Zn

Answer: C

Q42. Fehling A and Fehling B are :

(a) $CuSO_4$ soln.+ $AgNO_3$
(b) $CuSO_4$ and alkaline solution of Sodium tartarate
(c) Both a & b
(d) $CuSO_4 + CaSO_4$

Answer : B

Q43. Which of the following is tertiary amine?

(a) Triethylamine

(b) N-methyl aniline

(c) 1-methylcyclohexyl amine

(d) none of the above

Answer : A

Q44. Aspirin is :

(a) Acetyl salicylic acid

(b) Phenyl salicylate

(c) Acetyl salicylate

(d) Methyl salicylic acid

Answer : A

Q45. In Clemmensen Reduction, Carbonyl compound is treated with

(a) Zinc amalgam with HNO_3

(b) Sodium amalgam +HCl

(c) Zinc amalgam + HCl

(d) Sodium amalgam +HNO_3

Answer : C

Q46. Vitamin is soluble in water?

(a) Vitamin D

(b) Vitamin K

(c) Vitamin E

(d) Vitamin B

Answer : D

Q47. CF_2= CF_2 is a monomer of which of the following polymer?

(a) Teflon

(b) Nylon-6

(c) Glyptal

(d) Buna-S

Answer : A

Q48. Pain relieving drugs are called

(a) Antipyretics

(b) Analgesics

(c) Antibiotics

(d) Antiseptics

Answer : B

Q49. What will be the X in the following reaction: Phenol + Zn dust+ heat = X

(a) Acetic Acid

(b) Ethanol

(c) Methanol

(d) Benzene

Answer : D

Q50. Composition of a compound is C=26%, H=8% and rest is oxygen. Then % of Oxygen will be

(a) 16%

(b) 66%

(c) 100%

(d) 34%

Answer : B

Q51. Match column X and Y

Column X	Column Y
i. Acetic acid	a. $CaCO_3$
ii. Sulphuric acid	b. CH_3COOH
iii. Formaldehyde	c. HCHO
iv. Lime stone	d. H_2SO_4

(a) i-a, ii-b ,iii-c ,iv-d

(b) i-b, ii-a ,iii-d ,iv-c

(c) i-b , ii- d, iii- c , iv- a

(d) none of the above

Answer : C

Q52. Lindlar's catalyst is :

(a) Pt in ethanol

(b) Pd with $BaSO_4$

(c) Ni in ethanol

(d) Na in liq. NH_3

Answer : B

Q53.What is Lucas Reagent

(a) A mixture of HCl +$ZnCl_2$

(b) A mixture of HCl +$CaCl_2$

(c) A mixture of HNO_3 + $ZnCl_2$

(d) None of the above

Answer : A

Q54. $C_6H_5NH_2 \xrightarrow[HCl]{NaNO_2}$?

Identify ?

(a) benzene diazonium Chloride.

(b) $C_6H_5NH^{+3}$

(c) C_6H_5Cl

(d) None of the above.

Answer : A

Q55. Number of Significant figures in 6.626 are

(a) 3

(b) 5

(c) 4

(d) 2

Answer : C

Q56. Benzoic acid is

(a) C_6H_5CHO

(b) C_6H_5COOH

(c) CH_3COOH

(d) CH_3CHO

Answer : **B**

Q57. The hybridisation of 'S' in SF_6

(a) sp^3d^2

(b) sp^2

(c) sp^3d

(d) sp^3d^3

Answer : A

Q58. Which concentration term is unitless?

(a) Molarity

(b) Molality

(c) Mole fraction

(d) Formality

Answer : C

Q59. The Highest magnetic moment by a metal ion with outer Electronic configuration :

(a) $3d^2$

(b) $3d^7$

(c) $3d^9$

(d) $3d^5$

Answer : D

Q60. If 'n' is '2' then values of 'l' quantum no. can be

(a) 0 , 1, 2

(b) 0 , 2

(c) 0, 1, 3

(d) 0, 1

Answer : D

Q61. The method used to remove temporary hardness of water is

(a) Synthetic resins method

(b) Calgon's method

(c) Clark's method

(d) Ion-exchange method

Answer : C

Q62. Which of the following pair is not isoelectronic in nature

(a) Na^{+}, Mg^{+2}

(b) Na^{+} , Al^{3+}

(c) Mg^{2+} ,Al^{3+}

(d) Na^{+} , K^{+}

Answer : D

Q63. Syn gas is mixture of

(a) $CO_2 + H_2$

(b) $CO + H_2$

(c) $CO + CO_2$

(d) $CO + N_2$

Answer : B

Q64. The main contributor of acid rain is

(a) Sulphuric acid

(b) Calcium oxide

(c) Calcium carbonate

(d) PAN

Answer : A

Q65. Chlorobenzene when treated with sodium in dry ether gives diphenyl, the reaction is …

(a) Fittig reaction

(b) Wurtz reaction

(c) Sandmeyer reaction

(d) Coupling reaction.

Answer : A

Q66. Which metal is present in B_{12} Vitamin?

(a) Fe

(b) Co

(c) Mg

(d) Pt

Answer : B

Q67. Which of the following orbital is nearest to the nucleus?

(a) 4f

(b) 5d

(c) 4s

(d) 7p

Answer : C

Q68. What is the formula of Borax?

(a) $Na_2B_4O_7.10H_2O$

(b) $Na_2B_2O_7$

(c) $NaBO_2+B_2O_3$

(d) B_2O_3

Answer : A

Q69. Among the following ions which one has the highest paramagnetism?

(a) $[Cr(H_2O)_6]^{3+}$

(b) $[Fe(H_2O)_6]^{2+}$

(c) $[Cu(H_2O)_6]^{2+}$

(d) $[Zn(H_2O)_2]^{2+}$

Answer : B

Q70. Which of the following is not a colligative property?

(a) Elevation in B.p t

(b) Depression in freezing point

(c) Osmotic pressure

(d) Lowering in vapour pressure

Answer : D

Physics

Q71. Whenever a wave enters from one medium to another, its

a) Velocity changes

b) frequency changes

c) frequency doesn't change

d) wavelength remains constant

ANS c

Q72. A particle moves in a circular path with a uniform speed, its motion is

a) periodic

b) oscillatory

c) simple harmonic

d) angular simple harmonic

Ans (a)

Q73. What is the number of degrees of freedom for an ideal diatomic molecule at ordinary temperature?

a) 3

b) 5

c) 7

d) 6

Ans (b)

Q74. First law of thermodynamics is the law of conversion of

a) mass

b) linear momentum

c) energy

d) angular momentum

Ans c

Q75. S.I. unit of energy is

a) joule

b) calorie

c) kilo calorie

d) none

Ans (a)

Q76. Plants get water through the roots because of

a) Capillarity

b) Viscosity

c) Gravity

d) elasticity

Ans-a

Q77. Dimensional formula stress is same as that of

a) force

b) impulse

c) pressure

d) strain

Ans-c

Q78. When you move from equator to pole, the value of mass of the body

a) increases

b) decreases

c)remains the same

d) increases then decreases

Ans-c

Q79. Torque acting on a body is the rotational analogue

(a) mass

b) force

c) velocity

d) K.E.

Ans-b

Q80. A light and heavy body have equal momentum which one has greater Kinetic energy

a) A light body

b) heavy body

c) both have equal K.E.

d) none

Ans-a

Q81. Newton's first law of motion describes the

a) inertia

b) energy

c) work

d) momentum of inertia

Ans-a

Q82. which of the following quantities is vector

a) work

b) K.E.

c) power

d) Angular Moment

Ans-d

Q83. If a body travels with constant acceleration which of the following quantities remains Constant

a) Displacement

b) Velocity

c) Time

d) None

Ans-d

Q84. Electron volt is a unit of

a) Potential difference

b) Electric current

c) electronic charge

d) Energy

Ans-d

Q85. Which of the following physical quantity is dimensionless?

a) Angle

b) specific gravity

c) Strain

d) all of these

Ans-d

Q86. Majority charge carriers in p-type semiconductor are

a) Holes

b) Electrons

c) Holes and Electrons

d) None

Ans – a

Q87. An atom bomb works on the principle of

a) Alpha-Decay

b) Beta decay

c) nuclear fission

d) Nuclear fusion

Ans. C

Q88. Which spectral series of hydrogen lie in UV region?

a) Paschen

b) Balmer

c) Lyman

d) Brackett

ANS-C

Q89. The mass of photon at rest is

a) 1

b) Infinite

c) Zero

d) None

ANS-C

Q90. Mirage is due to which of the following

a) Diffraction

b) Reflection

c) Refraction

d) Total Internal reflection

ANS-d

Q91. Focal length of the plane mirror is

a) Negative

b) positive

c) Zero

d) infinite

ANS-d

Q92. Which of the following are not eM waves?

a) Cosmic rays

b) r-rays

c) β-rays

d) x-rays

Ans-c

Q93. The direction of Induced Emf is given by

a) Fleming's Law

b) Ampere's Law

c) Lenz's Law

d) Lorentz's Law

Ans-c

Q94. A uniform magnetic field is obtained in a

a) bar magnet

b) horse shoe magnet

c) circular coil carrying current

d) none

Ans a

Q95. A charged particle enters a magnetic field at an angle 90° with magnetic field. The path of the particle will be

b) a helix

c) an ellipse

c) a circle

d) a straight line.

Ans c

Q96. The unit of electric power is

a) Volt

b) Joule

c) Watt

d) kwh

Ans-c

Q97. In which of the following forms is the energy stored in a capacitor

a) charge

b) Potential

c) Capacitance

d) electric field

Ans-d

Q98. Which of the following is the best insulator

a) Carbon

b) Paper

c) Graphite

d) Ebonite

Ans-d

Q99. The net charge on a conductor is

a) Positive

b) negative

c) Varying

d) zero

Ans-d

Q100. The force per unit charge is known as

a) Electric flux

b) Electric field

c) Electric potential

d) electric current

Ans-b