Test Paper : **III**

Test Subject : **PHYSICAL SCIENCES**

Test Subject Code : **A-16-03**

Test Booklet Serial No. : _____

OMR Sheet No. : _____

Hall Ticket No. | | | | | | | | | |

(Figures as per admission card)

Name & Signature of Invigilator

Name : _____ Signature : _____

Paper : III

Subject : PHYSICAL SCIENCES

Time : 2 Hours 30 Minutes Maximum Marks : 150

Number of Pages in this Booklet : **16** Number of Questions in this Booklet : **75**

Instructions for the Candidates

1. Write your Hall Ticket Number in the space provided on the top of this page.
2. This paper consists of seventy five multiple-choice type of questions.
3. At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
   (i) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker-seal and do not accept an open booklet.
   (ii) **Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.**
   (iii) After this verification is over, the Test Booklet Number should be entered in the OMR Sheet and the OMR Sheet Number should be entered on this Test Booklet.
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the circle as indicated below on the correct response against each item.
   Example: (A) (B) ● (D)
   where (C) is the correct response.
5. Your responses to the items are to be indicated in the **OMR Sheet given to you**. If you mark at any place other than in the circle in the Answer Sheet, it will not be evaluated.
6. Read instructions given inside carefully.
7. Rough Work is to be done in the end of this booklet.
8. If you write your name or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, you will render yourself liable to disqualification.
9. You have to return the test question booklet and OMR Answer Sheet to the invigilators at the end of the examination compulsorily and must not carry it with you outside the Examination Hall.
10. **Use only Blue/Black Ball point pen.**
11. **Use of any calculator or log table etc., is prohibited.**
12. **There is no negative marks for incorrect answers.**

అభ్యర్థులకు సూచనలు

1. ఈ పుట పై భాగంలో ఇవ్వబడిన స్థలంలో మీ హాల్ టికెట్ నంబరు రాయండి.
2. ఈ ప్రశ్న పత్రము డెభైఐదు బహుళైచ్ఛిక ప్రశ్నలను కలిగి ఉంది.
3. పరీక్ష ప్రారంభమున ఈ ప్రశ్నాపత్రము మీకు ఇవ్వబడుతుంది. మొదటి ఐదు నిమిషములలో **ఈ ప్రశ్నాపత్రమును తెరిచి కింద తెలిపిన అంశాలను తప్పనిసరిగా పరిచూసుకోండి.**
   (i) ఈ ప్రశ్న పత్రమును చూడడానికి కవర్‌పేజి అంచున ఉన్న కాగితపు సీలును చించండి. స్టిక్కర్ సీలులేని మరియు ఇదివరకే తెరిచి ఉన్న ప్రశ్నాపత్రమును మీరు అంగీకరించవద్దు.
   (ii) **కవరు పేజి పై ముద్రించిన సమాచారం ప్రకారం ఈ ప్రశ్నపత్రములోని పేజీల సంఖ్యను మరియు ప్రశ్నల సంఖ్యను సరిచూసుకోండి. పేజీల సంఖ్యకు సంబంధించి గానీ లేదా సూచించిన సంఖ్యలో ప్రశ్నలు లేకపోవుట లేదా నిజప్రతి కాకపోవుట లేదా ప్రశ్నలు క్రమపద్ధతిలో లేకపోవుట లేదా ఏవైనా తేడాలుండుట వంటి దోషపూరితమైన ప్రశ్న పత్రాన్ని వెంటనే మొదటి ఐదు నిమిషాల్లో పరీక్షా పర్యవేక్షకునికి తిరిగి ఇచ్చివేసి దానికి బదులుగా సరిగ్గా ఉన్న ప్రశ్నపత్రాన్ని తీసుకోండి. తదనంతరం ప్రశ్నపత్రము మార్చబడదు అదనపు సమయం ఇవ్వబడదు.**
   (iii) పై విధంగా సరిచూసుకొన్న తర్వాత ప్రశ్నపత్రం సంఖ్యను OMR పత్రము పై అదేవిధంగా OMR పత్రము సంఖ్యను ఈ ప్రశ్నపత్రము పైనిర్దిష్టస్థలంలో రాయవలెను.
4. ప్రతి ప్రశ్నకు నాలుగు ప్రత్యామ్నాయ ప్రతిస్పందనలు (A), (B), (C) మరియు (D) లుగా ఇవ్వబడ్డాయి. ప్రతిప్రశ్నకు సరైన ప్రతిస్పందనను ఎన్నుకొని కింద తెలిపిన విధంగా OMR పత్రములో ప్రతి ప్రశ్నా సంఖ్యకు ఇవ్వబడిన నాలుగు వృత్తాల్లో సరైన ప్రతిస్పందనను సూచించే వృత్తాన్ని బాల్ పాయింట్ పెన్‌తో కింద తెలిపిన విధంగా పూరించాలి.
   ఉదాహరణ : (A) (B) ● (D)
   (C) సరైన ప్రతిస్పందన అయితే
5. ప్రశ్నలకు ప్రతిస్పందనలను ఈ ప్రశ్నపత్రముతో ఇవ్వబడిన OMR పత్రము పైన ఇవ్వబడిన వృత్తాల్లోనే పూరించి గుర్తించాలి. అలాకాక సమాధాన పత్రంపై వేరొక చోట గుర్తిస్తే మీ ప్రతిస్పందన మూల్యాంకనం చేయబడదు.
6. ప్రశ్న పత్రము లోపల ఇచ్చిన సూచనలను జాగ్రత్తగా చదవండి.
7. చిత్తుపనిని ప్రశ్నపత్రము చివర ఇచ్చిన ఖాళీస్థలములో చేయాలి.
8. OMR పత్రము పై నిర్ణీత స్థలంలో సూచించవలసిన వివరాలు తప్పించి ఇతర స్థలంలో మీ గుర్తింపును తెలిపే విధంగా మీ పేరు రాయడం గానీ లేదా ఇతర చిహ్నాలను పెట్టడం గానీ చేసినట్లయితే మీ అనర్హతకు మీరే బాధ్యులవుతారు.
9. పరీక్ష పూర్తయిన తర్వాత మీ ప్రశ్నపత్రాన్ని మరియు OMR పత్రాన్ని తప్పనిసరిగా పరీక్షపర్యవేక్షకుడికి ఇవ్వాలి. వాటిని పరీక్ష గది బయటకు తీసుకువెళ్లకూడదు.
10. **నీలి/నల్ల రంగు బాల్ పాయింట్ పెన్ మాత్రమే ఉపయోగించాలి.**
11. **లాగరిథమ్ టేబుల్స్, క్యాలిక్యులేటర్‌లు, ఎలక్ట్రానిక్ పరికరాలు మొదలగునవి పరీక్షగదిలో ఉపయోగించడం నిషేధం.**
12. **తప్పు సమాధానాలకు మార్కుల తగ్గింపు లేదు.**

PHYSICAL SCIENCES

Paper – III

1. For second order differential equation $L(y) = f(x)$, Green's function is $G(x, t)$. Then

(A) $L(G) = f$

(B) $G'(x, t)$ is discontinuous at $x = t$

(C) G exists for IVP

(D) $y = \int L(G)dt$

2. One dimensional wave equation in x, t admits a solution which is

(A) Oscillating in t and x

(B) Oscillating in x and exponential in t

(C) Oscillating in t and exponential in x

(D) Exponential in x and t

3. One dimensional heat conduction equation $\frac{\partial u}{\partial t} = k \frac{\partial^2 u}{\partial x^2}$ admits a solution which is

(A) Oscillating in t and exponential in x

(B) Exponential in t, oscillating in x

(C) Exponential in x and t

(D) Oscillating in x and t

4. The iterative scheme for square root of a number N in $x = \sqrt{N}$ is $x_{n+1} =$

(A) $\frac{1}{2}\left(N + 1/x_n\right)$

(B) $\frac{1}{2}\left(x_n + N/x_n\right)$

(C) $\frac{1}{2}\left(x_n - 2N/x_n\right)$

(D) $x_n - 2N/x_n$

5. If at $x = 0, 1, 2, 3$ and y is estimated by Lagrangian interpolation, then Lagrangian function for $x = 3$ is

(A) $\frac{1}{2}x(x-1)(x-2)$

(B) $-(x-1)(x-2)(x-3)/6$

(C) $x(x-1)(x-2)/6$

(D) $x(x-1)(x-2)(x-3)/6$

6. By Simpson's one third formula, Quadrature $\int_{x_0}^{x_2} y dx =$

(A) $2h\left(y_0 - 4y_1 + y_2\right)/3$

(B) $h\left(y_0 - 4y_1 + y_2\right)/3$

(C) $h\left(y_0 + 4y_1 + y_2\right)/3$

(D) $h\left(y_0 + 2y_1 + y_2\right)/3$

7. The solution of $dy/dx = f(x, y)$ with $y(x_0) = y_0$ by Runge Kutta 4th order method at $x = x_1$ is y_1 =

(A) $y_0 - ¼ (k_1 - 2k_2 - 2k_3 + k_4)$

(B) $y_0 + (k_1 + 2k_2 + 2k_3 + k_4)/6$

(C) $y_0 + ¼ (k_1 - 2k_2 - 2k_3 + k_4)$

(D) $y_0 + (k_1 - k_2 - k_3 + k_4)/3$

8. If $y_1 = 2$, $y_2 = 4$, $y_3 = 5$, the second order approximation at $x = x_2$ (for $h = ½$) for dy/dx =

(A) 12

(B) 9

(C) ¾

(D) 3

9. If $y'' - y = x$, the appropriate difference scheme at $x = x_i$ is

(A) $y_{i+1} - (2 + h^2)\, y_i + y_{i-1} = h^2 x_i$

(B) $y_{i+1} - (1 + 2h^2)\, y_i + y_{i-1} = h^2 x_i$

(C) $y_{i+1} - 2y_i + (1 + 2h)\, y_{i-1} = h^2 x_i$

(D) $y_{i+1} - 2h^2\, y_i + y_{i-1} = x_i$

10. The partial differential equation $Au_{xx} + Bu_{xy} + Cu_{yy} = f$ is elliptic if

(A) $B^2 - 4AC > 0$

(B) $B^2 - 4AC = 0$

(C) $B^2 - 4AC < 0$

(D) $B^2 - 4AC$ = complex

11. If the quantities $\bar{A}^i$ in $\bar{x}^i$ frame are related to quantities A^j in x^j frame by the relation $\bar{A}^i = \frac{\partial \bar{x}i}{\partial xj} A^j$, then A^i are called

(A) covariant

(B) contravariant

(C) metric tensors

(D) hyper variant

12. If A_{ij} is symmetric then the number of independent quantities are

(A) $n(n-1)$

(B) ¼ $n(2n+1)$

(C) ½ $n(n-1)$

(D) ½ $n(n+1)$

13. The change from non-ferromagnetic state to ferromagnetic state is associated with

(A) Phase transition of the first kind

(B) Phase transition of the second kind

(C) No change in the symmetry of the lattice

(D) No phase transition

14. The theory of co-operative phenomena, by including all interactions in three dimensional system is

(A) very easy

(B) very complicated

(C) neither easy nor complicated

(D) neither of the above three

15. A linear Ising chain of spins is not ferromagnetic because it can be easily broken. A single break of chain increases the energy by (where E is the energy of interaction between spins)

(A) $2E$

(B) $4E$

(C) $6E$

(D) $8E$

16. According to the Landau theory on diamagnetism, the diamagnetic contribution arises due to

(A) spinning motion of electrons

(B) orbital motion of electrons

(C) collective ordering of spins of parallel electrons

(D) none of the above

17. A photon in a definite spin state corresponds to a plane electromagnetic wave with

(A) only right circularly polarized

(B) only left circularly polarized

(C) either right or left circularly polarized

(D) zero momentum

18. Since photons obey BE statistics

(A) they are distinguishable

(B) they are indistinguishable

(C) there can not be number of photons with same 'k'(wave vector) and 'e' (polarization vector)

(D) none of the above

19. Bose Einstein condensations of thermodynamic manifestations follows

(A) Second order phase transition

(B) First order phase transition

(C) Neither first order nor second order phase transition

(D) None of the above

20. A very small particle immersed in liquid having Brownian motion exhibits a random type of motion due to

(A) high applied pressure on the particle

(B) medium applied pressure on the particle

(C) variable applied pressure acting on the particle

(D) natural thermal fluctuation of pressure on the particle

21. A random process or stochastic process is such that the variable 'x'

(A) depends on independent variable in well defined manner

(B) does not depend in well defined manner on independent variable

(C) the variable 'x' takes either zero or infinite value

(D) none of the above

22. The ESR frequency of an unpaired electron in a magnetic field of $0.3\mathrm{T}$

(given $g = 2$, $\beta = 11.274 \times 10^{-24}\mathrm{JT}^{-1}$, $h = 6.627 \times 10^{-34}\mathrm{Js}$) in multiple of 10^6 Hz is

(A) 8397

(B) 2434

(C) 3126

(D) 4444

23. Which one of the following systems will show electron spin resonance spectrum?

(A) H (B) H_2

(C) Na^+ (D) Cl^{-1}

24. In NMR experiment, a given organic compound with two kinds of protons exhibit signals at 50 Hz and 200 Hz using 60 MHz spectrometer. The position of signal at 50 Hz and 200 Hz in δ-scale is

(A) $0.88, 3.33$ (B) $0.2, 1.2$

(C) $0.1, 0.6$ (D) $1.0 , 4.0$

25. The rotation spectrum for HCl shows a series of lines separated by $20.6\ cm^{-1}$. The moment of inertia of the molecule is

(A) $2.65 \times 10^{-47}\ Kg.m^2$

(B) $3.12 \times 10^{-55}\ Kg.m^2$

(C) $4.0 \times 10^{-12}\ Kg.m^2$

(D) $16.0 \times 10^{8}\ Kg.m^2$

26. The number of fundamental vibrational frequencies in the Infra-red absorption spectrum of H_2O is

(A) 3 (B) 4

(C) 5 (D) 6

27. The planar twisting mode of vibration of N_2O_4 is

(A) Raman active

(B) Raman inactive

(C) Infrared active

(D) Neither Raman active nor Infrared active

28. Which one of the following compounds absorb ultraviolet radiations?

(A) Acetaldehyde

(B) Cyclohexane

(C) Ethanol

(D) Heptane

29. From extinction rules for face centred cubic crystals for the ratio of successive allowed XRD values of $h^2 + k^2 + l^2$ for FCC crystal is

(A) 1:2:3:4:5:6: ….

(B) 1:2:3:4:5:6:8:….

(C) 3:4:8:11:12: ….

(D) 8:25:34:76: …

30. In a solid the repulsive forces between atoms depends on

(A) repulsion between positively charged Nuclei only

(B) negatively charged electronic cloud of atoms only

(C) it depends both on nuclei and also electronic cloud of atoms

(D) it will not depend on positive charge of nuclei and also on negative charge of surrounding electronic cloud of atoms

31. The reciprocal lattice to BCC lattice is

(A) BCC lattice

(B) FCC lattice

(C) SC lattice

(D) it is not possible to find the reciprocal lattice of BCC

32. The elastic scattering of x-ray photon by a crystal is governed by the wave vector selection rule (G is a vector in the reciprocal lattice, K is a wave vector of incident photon, K_1 is the wave vector of scattered photon)

(A) $K_1 = K + G$ (B) $G = K_1 + K$

(C) $K_1 = K$ (D) $K = G$

33. In the case of insulators, specific heat of solids is dependent on its temperature T by

(A) T^3 law (B) T-law

(C) T^2 law (D) T^4 law

34. According to the KP model on band theory of solids, the atoms in the periodic lattice are positioned in the

(A) middle of the valley

(B) middle of the barrier

(C) only at the end edges of the solids

(D) at the boundary line between valley and the barrier

35. Calculate the frequency of AC current when a voltage of 1×10^{-6} v is applied across the two superconductors which are separated by a thin insulating layer where tunneling of electron pair is possible

(A) 286 MHz

(B) 316 MHz

(C) 483.6 MHz

(D) 116 MHz

36. Defect structures are produced when the composition of an ionic crystal does not correspond to the stoichiometric formula. In case of FeO, the vacant cation sites are produced usually by heating it in

(A) Zinc atmosphere

(B) Oxygen atmosphere

(C) Chlorine atmosphere

(D) Carbon atmosphere

37. Tilt angle of a tilt boundary in BCC iron (a = 2.87 AU) with edge dislocations 7500 Å apart is

(A) $5°$ (B) $8°$

(C) $0.02°$ (D) $16°$

38. Most of the liquid crystal cells used in LCD display are of the type

(A) smetic

(B) twisted nematic

(C) cholestric

(D) none of the above

39. The binding energy of a nucleon in a nucleus or mass defect per nucleon is

(A) minimum for medium nuclei

(B) maximum for medium nuclei

(C) maximum for heavy nuclei

(D) minimum for heavy nuclei

40. The liquid-drop model of nucleus to emphasize nuclear structure, possible oscillations are considered in an

(A) incompressible liquid

(B) compressible liquid

(C) viscous liquid

(D) none of the above

41. The function of a moderator in an atomic reactor is to

(A) absorb gamma radiation

(B) slow down fast neutrons

(C) release heat energy

(D) none of the above

42. Nuclides which possess same mass number are known as

(A) isotopes

(B) isobars

(C) isotones

(D) none of the above

43. The concept of Dirac-Hole predicted the existence of

(A) positron

(B) pair production

(C) electrons possessing negative energy states

(D) all the above

44. Heavy hydrogen when bombarded with neutrons artificial hydrogen and tritium are formed. Tritium is composed of

(A) Proton and three neutrons

(B) Proton and two neutrons

(C) Proton and one neutron

(D) None of the above

45. All quarks possess same spin and baryon charge, but differ in

(A) strangeness

(B) hypercharge

(C) all quantum numbers of elementary particles

(D) all the above

46. Anti quarks do not form any part of

(A) mesons

(B) baryons

(C) leptons

(D) hadrons

47. Anti baryons consist of

(A) three quarks

(B) four quarks

(C) two quarks

(D) no quarks

48. Spin Orbit interaction is more predominant in

(A) Heavy elements

(B) Medium elements

(C) Light elements

(D) Heavy and light elements

49. WKB approximation is based on the expansion of the wavefunction in powers of

(A) $\hbar$

(B) $\hbar^2$

(C) $\hbar^3$

(D) none of the above

50. The unit for differential cross section for scattering is

(A) barn

(B) steredian $\times$ cm^2

(C) steredian / cm^2

(D) steredian / cm^3

51. The superposition of infinite number of spherical waves gives a plane wave, the individual waves are known as

(A) partial wave

(B) wavefront

(C) cylindrical wave

(D) none of the above

52. Relativistic wave equation provide

(A) relativistic Hamiltonian

(B) first order equation for both space and time

(C) both the above

(D) none of the above

53. Klein-Gordon equation is applicable for particles with

(A) zero spin

(B) spin $1/2$

(C) spin $3/2$

(D) spin 1

54. A relativistic wave equation which provides a positive definite probability density, is given by

(A) Dirac equation

(B) Klein-Gordon equation

(C) Noether's theorem

(D) None of the above

55. The wavefunction derived from the Dirac relativistic equation, which do not transform as four vectors are known as

(A) Dirac's spinors

(B) Fermions

(C) Bosons

(D) None of the above

56. Nuclear magnetic resonance depends on

(A) orientation of nuclear moment relative to small static applied magnetic field

(B) orientation of the electron magnetic moment

(C) orientation of nuclear moment relative to large static applied magnetic field

(D) none of the above

57. Threshold population inversion required for oscillations of laser

i. is proportional to the spontaneous life time of the upper level

ii. inversely proportional to passive cavity life time

iii. proportional to passive cavity life time

iv. is inversely proportional to spontaneous lifetime of the upper level

(A) i and ii are correct

(B) i and iii are correct

(C) ii and iv are correct

(D) iii and iv are correct

58. Assertion (A) : Even in the absence of collisions and of thermal motions, line broadening takes place.

Reason (R) : Because of the finite life time of excited state due to spontaneous emissions.

(A) A and R are true, and R is the correct explanation

(B) A and R are true but R is not the correct explanation

(C) A is true but R is false

(D) A is false but R is true

59. Match the following:

I. Doppler broadening	1. Homogeneous
II. Four level system	2. Ruby laser
III. Collision broadening	3. Inhomogeneous
IV. Three level system	4. He-Ne laser

	I	II	III	IV
(A)	2	4	1	3
(B)	3	1	4	2
(C)	3	4	1	2
(D)	1	2	3	4

60. At thermal equilibrium of temperature T, for $\omega << K_B T/\hbar$

(A) Number of stimulated emissions exceeds the number of spontaneous emissions

(B) Number of spontaneous emissions exceeds the number of stimulated emissions

(C) Number of spontaneous emissions are equal to the number of stimulated emissions

(D) Emissions does not take place

61. Q switching of laser can be done by

I. Mechanical switching

II. Faster electronic switching

III. Using saturable absorbers

IV. all the above

(A) I and III are correct

(B) II and III are correct

(C) I, II and III are correct

(D) I and II are correct

62. Ionisation Gauges can measure Vacuum up to

(A) 10^{-1} to 10^{-3}mm of Hg

(B) 10^{-3} to 10^{-8}mm of Hg

(C) Up to 1 mm of Hg

(D) None

63. The temperature of a furnace is increasing at a rate of 0.2^0C/Sec.The maximum possible time constant required for a first order instrument so that the temperature is measured with maximum error of 2^0C.

(A) 4 Sec

(B) 0.4 Sec

(C) 0.1 Sec

(D) 10 Sec

64. The steady State error for unit Ramp input in the case of instruments following First Order Response is equal to

(A) Natural Frequency

(B) Damping Ratio

(C) Time Constant

(D) Settling Time

65. Dummy Strain Gauges are used for

(A) Compensation for Temperature changes

(B) Increasing the sensitivity of the bridge in which they are used

(C) Calibration of Strain Gauges

(D) None of the above

66. How many Op-Amps are required to implement the following equation

$V_o = -R_f \left[V_1/R_1 + V_2/R_2 + V_3/R_3\right]$?

(A) 1 (B) 2

(C) 3 (D) 4

67. In the Bath Tub Curve representing the failure rate of components/Instruments, the Region I of the curve corresponds to

(A) Constant Failure Region

(B) Infant Mortality Region

(C) Wear Out Region

(D) None of the above

68. Which of the following circuits are used in signal conditioning ?

I. Filters

II. Attenuators

III. Amplifiers

(A) I & II only (B) II & III only

(C) All (D) None

69. Match the following:

I. Chi-Square Test	1. Loading Effects
II. Standard Deviation	2. Recovery of signal from noise
III. Impedance Matching	3. Analysis of Random Errors
IV. Lock-in Detector	4. Feedback
	5. Goodness of Fit

	I	II	III	IV
(A)	5	3	1	2
(B)	3	4	5	1
(C)	2	1	3	4
(D)	1	2	5	4

70. The number of terms in semi-emperical mass formula is

(A) 6 (B) 7

(C) 8 (D) 9

71. In a nuclear reaction $p + {}^{12}C \rightarrow d + {}^{11}C$, by proton with a laboratory energy of 10MeV incident on to stationary ^{12}C nucleus, the equivalent centre of energy of proton is

(A) 9.23 MeV (B) 10.00 MeV

(C) 11.52 MeV (D) 8.46 MeV

72. Nuclear forces have the following characteristics:

I. Nuclear forces are saturated

II. Nuclear forces are spin independent

III. Nuclear forces are charge independent

IV. Nuclear forces are non central forces

(A) I,III and IV are correct

(B) II and III are correct

(C) I, II and III are correct

(D) I and II are correct

73. Physical quantities that are conserved in a nuclear reaction are

I. Energy

II. Charge

III. Spin

IV. Hyper charge

(A) I, III and IV are correct

(B) I, II and III are correct

(C) I, II and IV are correct

(D) I and IV are correct

74. **Assertion (A) :** Electrons reside inside the nucleus.

Reason (R) : Nuclei emit electrons in beta decay.

(A) A and R are true, and R is the correct explanation

(B) A and R are true but R is not the correct explanation

(C) A is true but R is false

(D) A is false but R is true

75. **Assertion (A) :** Nuclear force is very attractive.

Reason (R) : Stable nuclei exist in nature.

(A) A and R are true, and R is the correct explanation

(B) A and R are true but R is not the correct explanation

(C) A is true but R is false

(D) A is false but R is true

Space for Rough Work

APSET – 2018

Key

Subject: (22) Physical Sciences

PAPER - II

Q.No	Ans.	Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.
1	B	21	B	41	C	61	D	81	C
2	Add	22	A	42	B/C	62	D	82	D
3	B	23	A	43	A	63	A	83	C
4	B	24	D	44	C	64	C	84	A
5	C	25	C	45	C	65	C	85	A
6	D	26	A	46	B	66	D	86	B
7	C	27	A	47	D	67	B	87	B
8	A	28	A	48	B	68	A	88	B
9	D	29	B	49	B	69	D	89	A
10	C	30	B	50	A	70	A	90	A
11	D	31	C	51	B	71	Add	91	C
12	D	32	A	52	D	72	A	92	C
13	C	33	A	53	A	73	A	93	B
14	A	34	C	54	C	74	B	94	C
15	D	35	B	55	A	75	A	95	C
16	D	36	B	56	B	76	C	96	C
17	B	37	C	57	B	77	C	97	B
18	B	38	A	58	C	78	D	98	D
19	B	39	A	59	B	79	A	99	C
20	Add	40	D	60	C	80	A	100	D