BOOKLET SERIES

A

MADE EASY

Simulate the Real **ESE Prelims Exam** by

ANUBHAV
OPEN MOCK TEST

ESE 2026
Preliminary Exam

General Studies & Engineering Aptitude

FULL SYLLABUS TEST • PAPER-I

ANSWER KEY

1.	(b)	21.	(a)	41.	(d)	61.	(d)	81.	(c)
2.	(c)	22.	(c)	42.	(c)	62.	(a)	82.	(c)
3.	(b)	23.	(a)	43.	(d)	63.	(b)	83.	(c)
4.	(b)	24.	(c)	44.	(c)	64.	(c)	84.	(c)
5.	(b)	25.	(d)	45.	(a)	65.	(b)	85.	(d)
6.	(b)	26.	(b)	46.	(d)	66.	(b)	86.	(c)
7.	(a)	27.	(d)	47.	(d)	67.	(b)	87.	(c)
8.	(d)	28.	(b)	48.	(d)	68.	(b)	88.	(b)
9.	(d)	29.	(a)	49.	(a)	69.	(c)	89.	(b)
10.	(d)	30.	(a)	50.	(a)	70.	(d)	90.	(a)
11.	(c)	31.	(c)	51.	(c)	71.	(d)	91.	(b)
12.	(d)	32.	(c)	52.	(a)	72.	(d)	92.	(b)
13.	(c)	33.	(c)	53.	(b)	73.	(b)	93.	(b)
14.	(c)	34.	(c)	54.	(c)	74.	(a)	94.	(b)
15.	(b)	35.	(c)	55.	(b)	75.	(c)	95.	(d)
16.	(d)	36.	(c)	56.	(c)	76.	(a)	96.	(b)
17.	(d)	37.	(c)	57.	(b)	77.	(c)	97.	(c)
18.	(b)	38.	(b)	58.	(c)	78.	(a)	98.	(b)
19.	(c)	39.	(c)	59.	(d)	79.	(d)	99.	(a)
20.	(c)	40.	(b)	60.	(b)	80.	(b)	100.	(b)

DETAILED EXPLANATIONS

1. (b)

'Marginal Standing Facility (MSF) is a window for scheduled banks to borrow overnight funds from RBI in emergency situations when inter-bank liquidity dries up, using SLR securities.

2. (c)

- The VB - GRAM G Bill was passed to guarantee rural employment (Rozgar) and livelihood (Ajeevika). It builds upon frameworks like MGNREGA, but serves as a new mission-mode guarantee.
- It raises the minimum guaranteed wage employment days for rural households from 100 to 125 days per year.

3. (b)

ULLAS (Understanding Lifelong Learning for All in Society) targets adults aged 15+ who missed formal schooling, focusing on functional literacy.

4. (b)

These forts are primarily in Maharashtra, and Tamil Nadu (Gingee Fort). They represent the military genius of the Maratha Empire.

5. (b)

The US remains the largest economy ($30.50T). India ranks 4th with a GDP of $4.19T, after USA, China and Germany.

6. (b)

India remains in the 'Medium Human Development' category. India improved its rank to 130, and Iceland topped the list.

7. (a)

India and Russia are working on an FTA with the Eurasian Economic Union, not the European Union.

8. (d)

9. (d)

Authority is the right to command and the power to exact obedience. Without clear authority, decision-making stalls, and "progress in action" (moving from plan to execution) cannot happen efficiently in a hierarchy.

10. (d)

11. (c)

- Virtues focuses on words such as responsibility, honesty, competence, and loyalty which are virtues. Virtue ethics is closely related to personal character.
- Benevolence consists in helping and furthering the personal life of others.
- Justice is the willingness of giving each man his due. It is non- interference with the free development of other persons.
- Temperance is power of resisting the allurement of pleasure.

12. (d)

13. (c)
Instrumental value is the value that something has as a means to a desired or valued end. It is always derivative on the value of something else, and it is always conditional.

14. (c)
- Digital Signatures are cryptographic mechanisms to verify authenticity, not a creation of the mind protected by IP laws.
- Landscapes fall under Real Estate or Environmental laws.

15. (b)
Reef-building corals are tropical animals. They generally require water temperatures between 20°C and 29°C. Temperate oceans are too cold for them.

16. (d)
An Ecological Dominant species is one that exerts a major controlling influence on the community. This is achieved by having high abundance (large population/biomass) and being successful competitors (adaptive and aggressive in resource acquisition).

17. (d)
- Black Carbon (Soot) is a short-lived climate pollutant. Unlike CO_2 (which traps infrared heat), Black Carbon is dark and directly absorbs sunlight, warming the atmosphere immediately.
- When it settles on snow (like in the Arctic), it reduces the albedo (reflectivity), causing the snow to melt faster.

18. (b)
A rise in water temperature increases the metabolic rate of aquatic animals. This increased metabolism creates a higher demand for oxygen.

19. (c)

20. (c)
Burning stubble raises soil temperature to ~30-40°C, which kills beneficial soil microbes and fungi. It destroys the organic matter (carbon) in the soil, eventually leading to reduced soil fertility.

21. (a)

22. (c)
In-situ (On-site): Conservation of species in their natural habitat (National Parks, Wildlife Sanctuaries, Biosphere Reserves, etc.).
Ex-situ (Off-site): Conservation outside natural habitats (Zoos, Botanical Gardens, Seed Banks, Cryopreservation, etc).

23. (a)
There is difficulty in the management of nuclear waste, which may result in environmental contamination. Risk of accidental leakage of nuclear radiation can lead to catastrophe disasters.

24. (c)

- Alpha-diversity (α-diversity) refers to the diversity within a particular area or ecosystem and is usually expressed by the number of species in that ecosystem. It is expressed by number of species per unit area. It is a local measure.
- Among these, the tropical rainforest has highest density of species.

25. (d)

These are the three tiers of Bluetooth attacks, with Bluebugging being the most dangerous/severe.

26. (b)

Open source means that the source code is available for use, modification, and distribution under specific licenses. However, it doesn't mean that it's free, although it usually is. Thus, statement 2 is not correct.

27. (d)

GPS provides location and time information, whereas GIS manages and analyzes spatial data. While GIS uses GPS data as an input, GPS itself works independently without requiring GIS software.

28. (b)

DigiYatra is built on the concept of "Self-Sovereign Identity." The credentials are stored securely on the user's mobile device. The data is shared with the airport only on the day of travel and is purged from the airport system shortly after the flight departs. Hence, statement 2 is not correct.

29. (a)

- A virus needs you to run a file; a worm crawls through the network on its own.
- Ransomware encrypts data and locks it in order to extort money. It doesn't usually delete the Operating System (OS), because the victim needs the OS to pay the ransom.

30. (a)

Increasing layers i.e. making the network Deeper, drastically increases the computational cost and time required for training. Hence, statement 3 is not correct.

31. (c)

- Without VoNR, when you make a call on a 5G phone, the data might be 5G, but the phone switches to 4G for the voice call (this is called EPS Fallback). VoNR keeps everything on 5G.
- VoNR offers better sound quality (High Definition) and lower latency than VoLTE.

32. (c)

The must have feature of a product are the basic features of a product, the fully implementation of these features in a product does not increase the satisfaction of a customer, but the absence of these features make customer unsatisfied.

33. (c)

34. (c)

The Morphological chart is a method used to arrange all the functions and sub-functions in a logical order in following manner:

- Establish the functions that the design product must perform.
- List the functions in row-wise format.
- For each function (row), list the wide range of sub-solutions, in column-wise format.
- Select an acceptable set of sub-solutions, one for each function.

35. (c)

Unspoken: It refers to the attributes of a product that the customers would not generally ask for but are still important therefore, they cannot be ignored.

36. (c)

Scaffolds must be strong enough to carry their own weight plus 4 times the designed weight.

37. (c)

The length of line drawn = 1.5 × 6 = 9 inches long

$$\text{Representative fraction R.F.} = \frac{\text{Length of the drawing}}{\text{Actual length of object}}$$

$$= \frac{1.5\,\text{inches}}{1\times 12\,\text{inches}} = \frac{1}{8}$$

38. (b)

Guarding of machines comes under safety from engineering equipments.
(Machine Guarding/Engineering controls)

39. (c)

40. (b)

Benefits of six-sigma:

- Less wastage of material.
- A better understanding of customer requirements.
- More reliable products and services.

41. (d)

42. (c)

43. (d)

As per given data:

$$\text{Total operating time} = 20 \times 600 \text{ hours}$$

$$\text{Number of failure} = 2$$

$$\text{Mean time between failure (MTBF)} = \frac{\text{Total operating time}}{\text{Number of failure}}$$

$$= \frac{20\times 600}{2} = 6000 \text{ hours/failure}$$

44. (c)

45. (a)

46. **(d)**

47. **(d)**

48. **(d)**

49. **(a)**

50. **(a)**

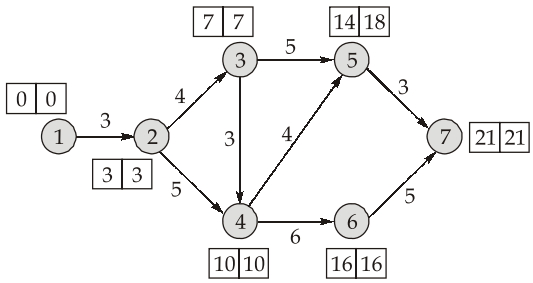
Depreciation factor for double declining balance method = $\frac{2}{n}$ i.e. $\frac{2}{5}$ = 0.4

Now,

D_1 = 1100 × 0.4 = Rs.440
B_1 = 1100 – 440 = Rs.660
D_2 = 660 × 0.4 = Rs.264
B_2 = 660 – 264 = Rs.396
D_3 = 396 × 0.4 = Rs.158.4
B_3 = 396 – 158.4 = Rs.237.6

51. **(c)**

52. **(a)**



Total float for 3 - 5 = 18 – 7 – 5 = 6 days

53. **(b)**

54. **(c)**

55. **(b)**

Detailed project report is prepared in design phase.

56. **(c)**

57. **(b)**

In resource levelling, the activities are so rescheduled that the maximum or peak demand for the resources does not exceed the available resources. Thus in resource levelling the main constraint is on the resources. However the resources cannot be less than the maximum amount needed for any activity of the project.

58. **(c)**

Project is temporary and creates a unique output.
Program manages interrelated projects for combined benefits.
Portfolio includes related and unrelated projects/programs aligned to strategy.

59. (d)

PMO roles include:
Rule maker (policies, methodologies).
Rule promoter (standards, templates, guidance).
Rule enforcer (governance, compliance).
PMO does NOT:
Execute or carry out day-to-day project work.

60. (b)

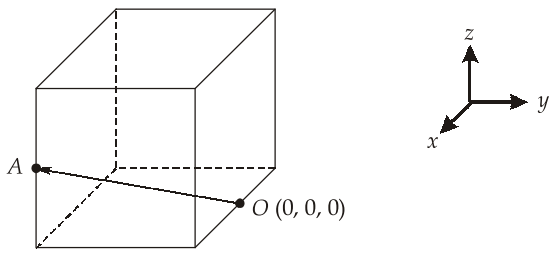
With the advent of scanning probe microscopes, which permit observation of individual atoms and molecules it has become possible to manipulate and move atoms and molecules to form new structures and thus, design new materials that are built from simple atomic-level constituents. This ability to arrange atoms carefully provides opportunities to develop mechanical, electrical, magnetic, and other properties that are not otherwise possible. This is called as the "bottom-up" approach, and study of the properties of these materials is termed 'nanotechnology', the 'nano' prefix denotes that the dimensions of structural entities are on the order of nanometer (10^{-9}m) as a rule, less than 100 nm. Eg. Carbon nanotube.

61. (d)

FCC crystal structure : Aluminum, Copper, Gold, Lead, Nickel, Platinum, Silver etc.
BCC crystal structure : Chromium, Iron(α), Molybdenum, Tantalum, Tungsten.
HCP crystal structure : Cadmium, Cobalt, Titanium(α), Zinc.

- Structures Cesium Chloride (CsCl) and Fluorite (CaF_2, UO_2, TiO_2) have simple cubic anion packing. In CsCl, the chloride ions (Cl^-) are located at the corners of a cube, while the cesium ion (Cs^+) is positioned at the center of the cube.
- In pure elements, Polonium (α-Po) is the only naturally occurring simple cubic structure.

62. (a)



$$\text{Point } A \rightarrow a\cdot\left(\frac{1}{2}\right), b(-1), c\left(\frac{1}{2}\right)$$

$$\rightarrow \frac{1}{2}, -1, \frac{1}{2}$$

$$\rightarrow 1, \ -2, 1$$

or Miller Indices of the given direction : $\left[1\ \bar{2}\ 1\right]$

63. (b)

Various degrees of crystallographic misalignment between adjacent grains are possible. When this orientation mismatch is slight, on the order of a few degrees, then the term small - (or low-) angle grain boundary is used. These boundaries can be described in terms of dislocation arrays. One simple grain boundary is formed when edge dislocations are aligned. This type is known as a tilt boundary. When the angle of misorientation is parallel to the boundary, a twist boundary results, which can be described by, an array of screw dislocations.

64. (c)

- The hydroxyl group (–OH) of ethylene glycol reacts with the carboxyl group (–COOH) of terephthalic acid and An ester bond (–COO–) is formed. Thus, the formation of polyesters known as polyethylene terephthalate (PET) results, from the condensation polymerization reaction between ethylene glycol and terephthalic acid.
- Bakelite is a product formed from condensation reaction between phenol and formaldehyde.
- Teflon is formed by addition polymerization of the monomer tetrafluoroethylene (TFE).
- Nylon is formed from condensation reaction between hexamethylene diamine and adipic acid.

65. (b)

Several features of the soluble and solvent atoms determine the substitutional solid solution:

- Atomic size factor : For greater solubility, the difference in atomic radius of two atom types should be less than about ±15%.
- Crystal structure : For appreciable solid solubility the crystal structures for metals of both atom types must be the same.
- Electronegativity : The more electropositive one element and more electronegative the other, the greater is the likelihood that they will form an inter-metallic compound instead of a substitutional solid solution.
- Valences : Other factors being equal, a metal will have more or a tendency to dissolve another metal of higher valency than one of a lower valency.

66. (b)

Diamagnetic materials do not have permanent magnetic dipoles. When an external magnetic field is applied, only a weak magnetic moment is induced, which opposes the applied field.

67. (b)

Ferroelectric materials do not have a centre of symmetry. Because of this lack of symmetry they show:

- Spontaneous polarisation
- Piezoelectric effect
- Pyroelectric effect

If a material had a centre of symmetry, ferroelectricity would not be possible.

68. (b)

In the superconducting state, electrons form cooper pairs, which is a more ordered state than the normal state.

$$\text{More order} \Rightarrow \text{Low entropy}$$

So, entropy decreases.

69. (c)

The electrical conductivity of materials is given by $\sigma = ne\mu$. Hence, it can be controlled by

(i) Controlling the number of charge carriers in the materials (n).

(ii) Controlling the mobility or ease of movement of the charge carriers (μ).

70. (d)

Applications of Hall effect:

It is used to determine whether a semiconductor is n-type or p-type.

For a semiconductor, if the Hall voltage produced is positive then the material is said to be p-type and if the Hall voltage produced is negative then the material is said to be n-type.

$$V_H = \frac{B.I.}{(ne)t} = -V_d Bd$$

where n is the carrier concentration and V_d is the drift velocity.

It is also used to determine:

- The carrier concentration
- The mobility
- The drift velocity
- The conductivity of specimen
- The magnetic field 'B'

71. (d)

All are the applications of superconducting magnets.

72. (d)

Energy lost during each cycle= Area of loop

$= 10^{-4} \times 10^2 \times 30000$

$= 300\ \text{J-m}^{-3}$

Volume of the transformer core = $0.01\ \text{m}^3$

Energy lost in the core in each cycle = $300 \times 0.01 = 3\text{J}$

$\therefore$ Power loss due to hysteresis = Energy loss x Supply frequency = $3 \times 50 = 150$ W

73. (b)

A is a real symmetric matrix.

The eigen vectors of A are orthogonal. Thus, if x_1 and x_2 are eigen vectors, then their dot product is zero i.e. $x_1^T x_2 = 0$.

For the given eigen vectors, only the vector given in option (b) is orthogonal.

Alternatively, for option (b), $AX = \begin{pmatrix} 1+2-3-4 \\ 2+1-4-3 \\ 3+4-2-1 \\ 4+3-1-2 \end{pmatrix} = -4\begin{pmatrix} 1 \\ 1 \\ -1 \\ -1 \end{pmatrix} = \lambda X$

Thus, option (b) is an eigen vector.

74. (a)

To evaluate $\int_c \vec{r}\cdot d\vec{r}$ along the curve, we have

$$x^2 + y^2 = 4,\ z = 0 \text{ so that } dz = 0$$

Thus,
$$\int_c \vec{r}\cdot d\vec{r} = \int_c \left(x\hat{i} + y\hat{j} + z\hat{k}\right)\cdot\left(dx\hat{i} + dy\hat{j} + dz\hat{k}\right)$$
$$= \int_c \left(x\,dx + y\,dy + z\,dz\right)$$
$$= \iint_R \left(\frac{\partial y}{\partial x} - \frac{\partial x}{\partial y}\right)dx\,dy = \iint_R (0-0)\,dx\,dy \quad \text{(Using Green's Theorem)}$$
$$= 0$$

75. (c)

If two regression coefficients are positive, correlation coefficient is also positive given as the geometric mean of the two regression coefficients.

$$r = \sqrt{b_{yx} \times b_{xy}} = \sqrt{0.8 \times 0.2} = 0.4$$

76. (a)

The given differential equation can be written as, $f(D)\,y = 0$ ...(i)

where $f(D) = D^2 + 2D - 5$

The auxiliary equation (AE) is $f(m) = 0$

$$m^2 + 2m - 5 = 0$$
$$m = -1 \pm \sqrt{6}$$

The general solution, $y = c_1 e^{\left(-1+\sqrt{6}\right)x} + c_2 e^{\left(-1-\sqrt{6}\right)x}$

77. (c)

Let $f(z) = \dfrac{\cos(\pi z)}{z-1} = \dfrac{\phi(z)}{z - z_0}$

Then the singular point of $f(z)$ is given by

$$z - 1 = 0$$
$$z = 1$$

Here, the singular point $z = 1$ lies inside the given circle $c : |z - 1| = 2$

$\therefore$ By Cauchy's integral formula, we have

$$\oint_c f(z)\,dz = 2\pi i\left[\cos(\pi z)\right]_{z=1} = 2\pi i(-1)$$
$$= -2\pi i$$

78. (a)

$$x_{n+1} = \frac{1}{2}\left(x_n + \frac{3}{x_n}\right)$$

Let $x_{n+1} = x_n = x$

$$x = \frac{1}{2}\left(x + \frac{3}{x}\right)$$

$$x^2 = 3$$

79. (d)

For continuous random variable,

$$\int_{-\infty}^{\infty} f(x)\,dx = 1$$

$$\int_0^2 k(5x - 2x^2)\,dx = 1$$

$$k\left(10 - \frac{16}{3}\right) = 1$$

$$k = \frac{3}{14}$$

We have, $P(x > 1) = \int_1^{\infty} f(x)dx$

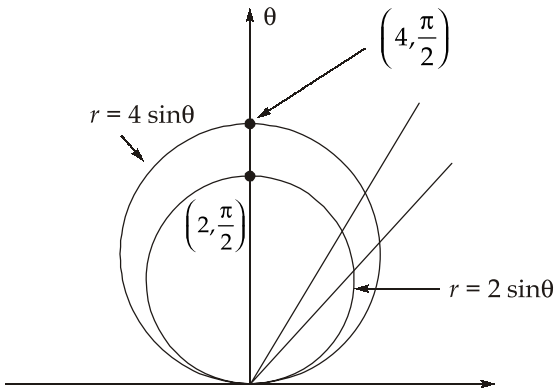
$$= \int_1^2 \frac{3}{14}(5(x) - 2x^2)dx$$

$$= \frac{3}{14}\left(5\left(\frac{x^2}{2}\right)_1^2 - 2\left(\frac{x^3}{3}\right)_1^2\right)$$

$$= \frac{3}{14}\left(5\left(\frac{3}{2}\right) - \frac{14}{3}\right) = \frac{3}{14}\left(\frac{45-28}{2\times 3}\right)$$

$$= \frac{17}{28}$$

80. (b)



To evaluate $\iint r^3 dr\, d\theta$ over the area included between the circles $r = 2\sin\theta$ and $r = 4\sin\theta$,

We have,

$$\iint r^3 dr\, d\theta = \int_{\theta=0}^{\pi} \int_{r=2\sin\theta}^{4\sin\theta} r^3 dr\, d\theta$$

$$= \int_{\theta=0}^{\pi} \left\{\frac{r^4}{4}\right\}_{2\sin\theta}^{4\sin\theta}$$

$$= \frac{1}{4}\int_0^{\pi} \left\{256\sin^4\theta - 16\sin^4\theta\right\} d\theta$$

$$= 120\int_0^{\pi/2} \sin^4(\theta)\, d\theta$$

$$\left[\int_0^a f(x)dx = 2\int_0^{a/2} f(x)dx,\ if\ \ f(a-x) = f(x)\right]$$

$$= 120\times\frac{3}{4}\times\frac{1}{2}\times\frac{\pi}{2} = 22.5\pi$$

$$\left(\int_0^{\pi/2} \sin^n x\, dx = \begin{cases}\left(\frac{n-1}{n}\times\frac{n-3}{n-2}\ldots\frac{1}{2}\right)\cdot\frac{\pi}{2}; if\ n \text{ is even}\\ \left(\frac{n-1}{n}\times\frac{n-3}{n-2}\ldots\frac{1}{2}\right); if\ n \text{ is odd}\end{cases}\right)$$

81. (c)

The number 7 can be written as $(2^3 - 1)$

$= (x - a)$ where $x = 2^3$ and $a = 1$

$2^{83} = 2^2 \times 2^{81} = 4(2^3)^{27}$

A number of the form (x^n) when divided by $(x - a)$ leaves a remainder of an . Thus,

Required remainder $= 4(1)^{27} = 4$

82. (c)

Here binomial distribution can be used

$$P(H) = 0.5$$

Probability of getting head exactly 4 times is given by

$$P(X = 4) = {}^5C_4\ (0.5)^4\ (0.5)^1$$
$$= 5 \times (0.5)^5$$
$$= \frac{5}{32}$$

83. (c)

Ratio of students participating in examination,

$$\frac{\text{Boys}}{\text{Girls}} = \frac{4}{3}$$

$$\text{Pass\%} = 80\%$$

Let total students be x. Thus,

$$\text{Passed students} = 0.8x$$

$$\text{Boys} = \frac{4}{7}x$$

$$\text{Girls} = \frac{3}{7}x$$

Given that, $\text{Passed girls} = 0.9 \times \frac{3}{7}x$

$$\text{Let passed boys} = y$$

We have, $\frac{0.9 \times \frac{3}{7}x + y}{x} = 0.8$

$$y = 0.8x - \frac{2.7}{7}x = \frac{2.9x}{7}$$

$$\%\ \text{Boys passed} = \frac{\frac{2.9}{7}x}{\frac{4}{7}x} \times 100$$

$$= 72.5\%$$

84. (c)

Let the capacity of the vessel be x litres.

$$\text{Final proportion of milk} = 1 \times \left(\frac{x-10}{x}\right)\left(\frac{x-10}{x}\right)$$

Now, according to the question,

$$\left(\frac{x-10}{x}\right)^2 x = 32$$

$$(x-10)^2 = 32x$$
$$x^2 - 52x + 100 = 0$$
$$(x-50)(x-2) = 0$$
$$x = 50, 2$$

As the vessel has 32 litres of milk after 2 replacement, so $x > 32$.

$\therefore$ $x = 50$ litres

85. (d)

Let required person are x

$$\left.\begin{array}{lrcl} H & 9 & : & 8 \\ L & 26 & : & 39 \\ D & 12 & : & 18 \end{array}\right] :: 17 : x$$

Thus, $9 \times 26 \times 12x = 8 \times 39 \times 18 \times 17$

$$x = \frac{8\times 39\times 18\times 17}{9\times 26\times 12} = 34$$

86. (c)

Since the distances travelled in each direction is the same,

So, $$\frac{V_1}{V_2} = \frac{T_2}{T_1}$$

where V_1 = Upstream speed = Speed of boat in still water – Speed of stream
and V_2 = Downstream speed = Speed of boat in still water + Speed of stream

$$\frac{10-6}{10+6} = \frac{T_2}{T_1}$$

$$\frac{T_1}{T_2} = \frac{4}{1}$$

87. (c)

Let r_s be the radius of smaller ring and r_B is the radius of the bigger ring. As per the question, Circumference of bigger ring = 3 (Circumference of smaller ring)

$$2\pi r_B = 3(2\pi r_s)$$
$$r_B = 3r_s$$
$$\text{Area of pathway} = \text{Area of bigger ring} - \text{Area of smaller ring}$$
$$= \pi r_B^2 - \pi r_s^2$$

$$= \pi(3r_s)^2 - \pi r_s^2$$

$$= 8\pi r_s^2$$

$$= 8 \times \text{Area of smaller ring}$$

$$n = 8$$

88. (b)

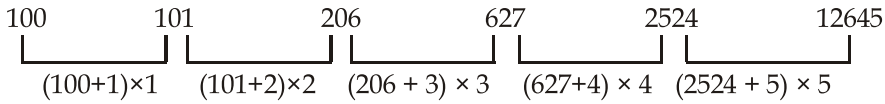
A parallelogram requires 2 pairs of parallel lines. If a parallelogram has m horizontal and n vertical lines, then total number of parallelograms possible $= {}^nC_2 \times {}^mC_2 = \frac{n!}{2!(n-2)!} \times \frac{m!}{2!(m-2)!}$

Here, $n = 4$ and $m = 3$

So, total number of parallelograms $= {}^4C_2 \times {}^3C_2$

$$= \frac{4!}{2!2!} \times \frac{3!}{2!1!} = \frac{4 \times 3 \times 2!}{2!2!} \times \frac{3 \times 2!}{2!} = 3 \times 6 = 18$$

89. (b)



90. (a)

The number at centre is sum of squares of all other numbers. Thus, for figure (iii),

$$54 = x^2 + (2)^2 + (3)^2 + (4)^2$$

$$x^2 = 25$$

$$\Rightarrow \quad x = 5$$

91. (b)

92. (b)

93. (b)

94. (b)

95. (d)

96. (b)

97. (c)

98. (b)

The term "Metaverse" refers to a virtual world where virtual reality (VR), augmented reality, the internet, user-generated content, and digital economies converge to create immersive and interconnected experiences.

99. (a)

Net neutrality is the concept of an open, equal internet for everyone, regardless of device, application or platform used and content consumed. ISPs are prohibited from creating "fast lanes" for those who can pay more, ensuring fair access for all users and services. Both Statement (I) and Statement (II) are true and Statement (II) is the correct explanation of Statement (I).

100. (b)

- Ionic bonding is coulombic (electrostatic) force between positive and negative ions, by virtue of their net electrical charge.
- Ionic bonds are nondirectional, that is, the magnitude of the bond is equal in all directions around an ion.
- It follows that for ionic materials to be stable, all positive ions must have as nearest neighbours negatively charged ions in three-directional scheme and vice versa.

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