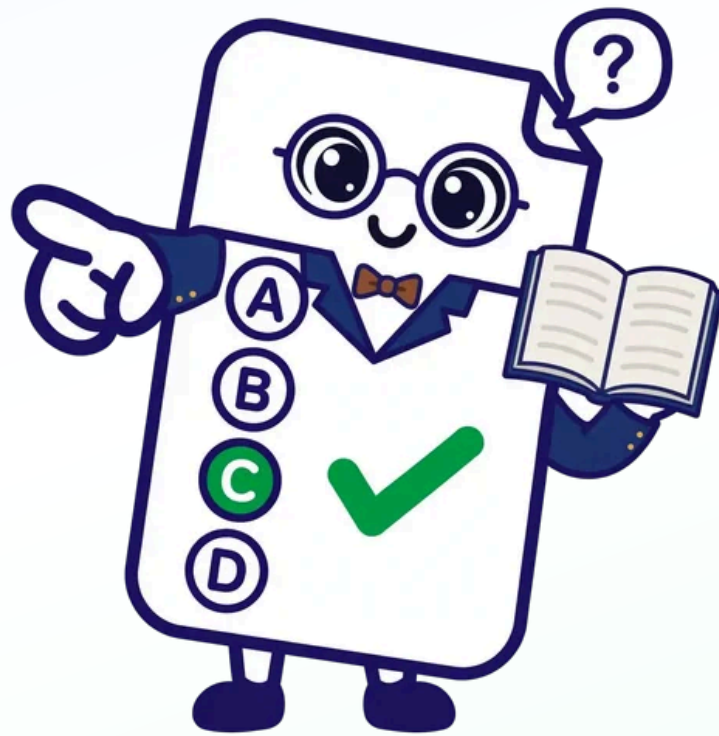




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- Physics: 80 MCQs per paper
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- General Knowledge: 5 MCQs per paper
- Pakistan Studies: 4 MCQs per paper
- Pakistan Current Affairs: 3 MCQs per paper
- Islamic Studies: 2 MCQs per paper
- Computer Science and IT: 1 MCQs per paper



MODEL PAPER 1 OF 1

Subject Specialist Physics Test

100 MCQs · 120 minutes · answer key at the back



Physics

80 MCQs

1. Two equal, anti-parallel, and nonconcurrent forces are:

- ☐ A Couple
- ☐ B Couple arm
- ☐ C Collinear forces
- ☐ D Torque

2. An incompressible fluid flows through a pipe that becomes narrower in one section. The fluid speed increases in that region to maintain:

- ☐ A Constant pressure
- ☐ B Constant energy
- ☐ C Constant mass flow rate
- ☐ D Constant volume

3. When the voltage of the target in the X-ray tube increases, then the

- ☐ A penetrating power of x-ray increases
- ☐ B intensity of x-rays increases
- ☐ C wavelength of x-rays increases
- ☐ D all of these

4. The charged particle is situated in a region of space and it experiences a force only when it is in motion. It can be deduce that the region encloses

- ☐ A Both electric and magnetic field
- ☐ B Both magnetic and gravitational field
- ☐ C A magnetic field only
- ☐ D An electric field only

5. If by some phenomenon the Earth contracts to one half of its present size, then the value of gravitational potential energy becomes:

- ☐ A Double
- ☐ B One-half
- ☐ C Remains the same
- ☐ D Four times

6. The transverse nature of light is verified with the phenomenon of:

- ☐ A Interference
- ☐ B Polarization
- ☐ C Diffraction
- ☐ D Dispersion

7. In an AC capacitive circuit current and voltage phase relation is:

- ☐ A In-phase
- ☐ B Current leads voltage by 90°
- ☐ C Voltage leads current by 90°
- ☐ D Current leads voltage by 180°

8. During the experiment, one measured the mass of mosquito and found it 1.20×10^{-5} kg. The number of significant figures in this case is:

- (A) 3 s.f
- (B) 2 s.f
- (C) 5 s.f
- (D) 8 s.f

9. The continuous spectrum of X-rays is formed due to:

- (A) Characteristics of X-rays
- (B) Bremsstrahlung X-ray
- (C) Soft X-ray
- (D) Hard X-ray

10. A particle carrying charge of $2e$ falls through a potential difference of 3.0 V. Calculate the energy required by it

- (A) 9.6×10^{-19} J
- (B) 9.1×10^{-19} J
- (C) 1.6×10^{-19} J
- (D) 6.0×10^{-19} J

11. The period of simple pendulum double when :

- (A) Its length is doubled
- (B) The mass of the bob is double
- (C) Its length is made four time
- (D) The mass and length of the pendulum is made two times

12. A person travels 4 km east, then 4 km south and finally travels in such a way that his journey terminates 4 km directly west of the starting point. What is the magnitude of the displacement during the third leg of the journey?

- (A) $4\sqrt{5}$ km
- (B) 40 km
- (C) 80 km
- (D) $4\sqrt{2}$ km

13. Total resistance between 'A' and 'B' in the given circuit is:

- (A) 5.6Ω
- (B) 3.33Ω
- (C) 0.33Ω
- (D) 6.6Ω

14. In Fleming's right hand rule, the second finger indicates:

- (A) Force
- (B) Induced current
- (C) Magnetic field
- (D) Motion

15. The expression for binding energy is:

- (A) $EB = fh$
- (B) $EB = [(ZMP + N Mn) - ZMA] C^2$
- (C) $EB = ZMP C^2 + N Mn ZMA C^2$
- (D) $EB = ZMP + N Mn - M C^2$

16. If force acting on a body is plotted along y s and displacement covered as result is plotted along x s, then work done is given by

- (A) Each point on the curve
- (B) Slope of the curve
- (C) Area under the curve
- (D) None is true

17. The spring constant of a spring is k . If the spring is cut into two halves then the spring constant of one of the halves is:

- (A) $k + 2$
- (B) $k/2$
- (C) $2k$
- (D) k

18. The diode that converts electrical energy into light energy is called:

- (A) Solar cell
- (B) Photodiode
- (C) Vacuum diode
- (D) Light emitting diode

19. The thermodynamic process during which the pressure is kept constant is called

- (A) Isochoric process
- (B) Adiabatic process
- (C) Isobaric process
- (D) Isothermal process

20. The moment of inertia of an object does not depend upon:

- (A) Mass of an object
- (B) Mass of distribution
- (C) Angular velocity
- (D) Axis of rotation

21. The direction of torque is:

- (A) Parallel to the plane of F and y
- (B) Perpendicular to the plane of F and y
- (C) Anti parallel to the plane of F and y
- (D) Is the same as that of the plane of F and y

22. In Bernoulli's equation, the term $\frac{1}{2} \rho v^2$ is called:

- (A) K.E. per unit volume
- (B) K.E.
- (C) K.E. per unit area
- (D) K.E. per unit length

23. Objects cannot be accelerated to the speed of light in free space is consequence of

- (A) Mass variation
- (B) Energy - mass relationship
- (C) Inertia forces
- (D) All of these

24. Magnetic flux is maximum when angle between magnetic field and vector area is

- (A) 0°
- (B) 90°
- (C) All of these
- (D) None of these

25. The weight of a pilot when diving down in a jet plane with an acceleration of 9.8 m/s^2 will become

- (A) Double
- (B) Half
- (C) Negative
- (D) Zero

26. The minimum distance from the eye at which an object appears to be distant is:

- (A) 25 cm
- (B) 22 cm
- (C) 35 cm
- (D) 20 cm

27. The inductor has an inductance of 0.5 is connected to 50 hertz ac source, what is the inductive reactance of the inductor?

- (A) 94.2
- (B) 1.57
- (C) 157
- (D) 9,421

28. Force in terms of base units is expressed as:

- (A) Kg ms^{-2}
- (B) Kgm2s^{-2}
- (C) Kgm2s^{-3}
- (D) None of these

29. The shortest wavelength of radiation in Paschen series is:

- (A) $R_H/9$
- (B) $9/R_H$
- (C) $9 R_H$
- (D) $9 + R_H$

30. The magnitude of an electric field between two separated plates can be calculated by the relation:

- (A) $\Delta V = Ed$
- (B) $\Delta V = E/d$
- (C) $\Delta V = E/q_0$
- (D) $E = d/\Delta V$

31. In a vibrating cord the point where the particles are stationary is called:

- (A) Crest
- (B) Anti-node
- (C) Node
- (D) Trough

32. A particle moves along a straight line. The distance x described in time t is given by the equation $x = t^3$ volts. The acceleration at $t=1$ is initial velocity $=c$:

- (A) $A=1$
- (B) $B=2$
- (C) $C=3$
- (D) $D=4$

33. Ohm's law is valid only for

- (A) Thermistor
- (B) Bulb filament
- (C) Metals
- (D) Semiconductors

34. As a loop of wire with a resistance of 10Ω moves in a constant non-uniform magnetic field, it loses kinetic energy at a uniform rate of 4.0 ms/s . The induced current in the loop is:

- (A) 0 mA
- (B) 2 mA
- (C) 2.8 mA
- (D) 20 mA

35. The emission of γ -radiations from the nucleus is generally represented by the equation:

- (A) Option A
- (B) Option B
- (C) Option C
- (D) Option D

36. Earth receives large amount of energy directly from:

- (A) Wind
- (B) Water
- (C) Sun
- (D) Moon

37. The wire made of copper belongs to which specific kind of material?

- (A) Ductile material
- (B) Tough material
- (C) Brittle material
- (D) Deformed material

38. A device that converts AC into DC is called

- (A) Rectifier
- (B) Transistor
- (C) Capacitor
- (D) Inductor

39. Estimate pressure of air molecules at 273 K, if mean square speed is $500\text{m}^2/\text{s}^2$ and density of air is $6\text{kg}/\text{m}^3$:

- (A) $1 \times 10^3 \text{ Pa}$
- (B) $2.5 \times 10^2 \text{ Pa}$
- (C) $1 \times 10^2 \text{ Pa}$
- (D) $2.7 \times 10^3 \text{ Pa}$

40. The vectoral form of centripetal force is:

- (A) $F_c = mv^2/r$
- (B) $F_c = (mv^2/r)\hat{r}$
- (C) $F_c = (mv^2/r^2)\hat{r}$
- (D) $F_c = (mv^2/r^2)\hat{y}$

41. If $\hat{n}$ is unit vector in direction of $\vec{A}$ then:

- (A) $\hat{n} = \vec{A} / |\vec{A}|$
- (B) $\hat{n} = (\vec{A} \cdot |\vec{A}|)$
- (C) $\hat{n} = \hat{n}\vec{A}$
- (D) $\hat{n} = \vec{A}/A$

42. The drag force decreases as the speed of an object moving through fluid _.

- (A) Increases
- (B) Decreases
- (C) Remains constant
- (D) Both B and C

43. The wave nature of electrons is suggested by experiments on

- (A) Line spectra of action
- (B) The production of x-rays
- (C) The photoelectric effect
- (D) Electrons diffraction by crystalline material

44. Two metallic wires lying parallel, If the current in these wires is flowing in the same direction, the wires will

- ☐ A attract each other
- ☐ B repel each other
- ☐ C have no force of attraction or repulsion
- ☐ D remain stationary

45. Initial velocity of the object with which it goes out of the Earth's gravitational field, is called:

- ☐ A Escape velocity
- ☐ B Threshold velocity
- ☐ C Maximum velocity
- ☐ D Terminal velocity

46. The red shift measurement of Doppler effect of galaxies indicate that the universe is:

- ☐ A Expanding
- ☐ B Contracting
- ☐ C Stationary
- ☐ D Oscillating

47. The waves which do not require any medium for their propagation are called:

- ☐ A Mechanical waves
- ☐ B Sound waves
- ☐ C Tidal waves
- ☐ D Electromagnetic waves

48. The principle of homogeneity of dimensions determines:

- ☐ A Only the variables in the equation
- ☐ B Only the constants in the equation
- ☐ C The correctness of an equation
- ☐ D Both constants and variables in the equation

49. The transition from $n = 4, 5, 6, \dots$ To $n+3$ in hydrogen spectrum gives

- ☐ A Balmer series
- ☐ B Lyman series
- ☐ C Paschen series
- ☐ D Pfund series

50. Consider a neutral conducting sphere. A positive point charge is placed outside the sphere. The net charge on the sphere is then.

- ☐ A Negative and uniform over the surface of the sphere
- ☐ B Zero
- ☐ C Negative and at the point on the sphere closest to the point charge
- ☐ D Negative and distributed non-uniformly over the entire surface of the sphere

51. When wave is reflected from denser medium to rare medium then there is phase change of:

- ☐ A $\pi/4$
- ☐ B $\pi/2$
- ☐ C 0
- ☐ D 2π

52. If a body having mass m_1 (2 kg) moving with 5 m/s approaches another mass m_2 (3 kg) with speed of 1 m/s in same direction, relative speed of approach is 4 m/s. Relative speed of separation after collision will be:

- (A) 4 m/s
- (B) 2 m/s
- (C) 6 m/s
- (D) Depends on masses

53. Several resistors are connected in parallel the resistance of their equivalent resistor will:

- (A) Increase
- (B) Decrease
- (C) Not change
- (D) None of these

54. A current generator is a device that converts:

- (A) Mechanical energy into electrical energy
- (B) Chemical energy into mechanical energy
- (C) Sound energy into mechanical energy
- (D) Electrical energy into mechanical energy

55. Energy radiation absorbed at the rate of one joule per kilogram is called:

- (A) 1 Rad
- (B) 1 Sievert
- (C) 1 Yellow
- (D) 1 Gray

56. Two identical bodies have a velocity ratio 2 : 3. What is the ratio of kinetic energies?

- (A) 9:4
- (B) 3:2
- (C) 4:9
- (D) 2:3

57. The resistance of the pure semiconductor decreases in a certain ratio with the?

- (A) Decrease in temperature
- (B) Increase in current
- (C) Increase in temperature
- (D) Decrease in current

58. In certain circuit, if the transistor has a collector current of 10 mA and base current of 50 μ A, then the current gain of the transistor is:

- (A) 250
- (B) 100
- (C) 150
- (D) 200

59. If heat ' Q_1 ' is absorbed in temperature ' T ' and heat ' Q_2 ' is absorbed at temperature of the triple point of water, then the unknown temperature of the system (in K) is :

- (A) 273.16
- (B) $273.16 \frac{Q_2}{Q_1}$
- (C) $273.16 Q$
- (D) $273.16 \frac{Q_1}{Q_2}$

60. A girl sitting on a spinning bus tool with her legs folded , suddenly out spreads then her angular velocity will:

- (A) decrease
- (B) increase
- (C) Remain the same
- (D) first increase and then decrease

61. Which one of the following is not a vector quantity?

- (A) Electric field intensity
- (B) Gravitational field intensity
- (C) Magnetic induction
- (D) Electromotive force

62. A larger water tank open at the top has small hole in the bottom when the water level is 30m above the bottom of the tank the speed of the water leaking from the hole is:

- (A) 2.5m/s
- (B) 24m/s
- (C) 4.44m/s
- (D) Cannot be calculated unless the area of the hole is given

63. A charge moving at a relativistic speed has a speed

- (A) Equal to the speed of light
- (B) Greater than speed of light
- (C) Comparable to the speed of light
- (D) None of these

64. A 100m long conductor carrying current of 2A is at right angle to B of 0.5 wb_m² . The force experienced by the conductor is:

- (A) 1.2N
- (B) 3 dynes
- (C) 10⁷ dynes
- (D) 10⁵ dynes

65. The orbital speed of satellite orbiting around the Earth is:

- (A) $\sqrt{GM/R_e}$
- (B) $\sqrt{GM_e/R_e}$
- (C) $\sqrt{GM_e/R^2}$
- (D) $\sqrt{GM_e/h}$

66. The value of the least distance of distinct vision or near point is _ for a normal human eye.

- (A) 20 cm
- (B) 25 cm
- (C) 10 cm
- (D) 15 cm

67. Which one of the following properties of electromagnetic waves does not change in a vacuum?

- (A) Speed
- (B) Wavelength
- (C) Frequency
- (D) All of the above

68. An observer notes the reading of scale from different angles (parallax) while measuring the length of the wire, what type of error is possible:

- (A) Systematic error
- (B) Zero error
- (C) Precise error
- (D) Random Error

69. Which one of the following will produce a pink colour in a discharge tube?

- (A) Neon
- (B) Nitrogen
- (C) Helium
- (D) Oxygen

70. The electric field at a point due to two equal and opposite charges is 100 N/C. If the magnitude of each charge is doubled then the electric field at that point becomes:

- ☐ A 50 N/C
- ☐ B 100 N/C
- ☐ C 200 N/C
- ☐ D 400 N/C

71. An ambulance siren emits a sound of frequency 1800 Hz. The speed of sound in air is 330m/s. If the ambulance moves toward a stationary observer at a constant speed of 50m/s. What is the frequency heard by the observer?

- ☐ A $(1800 \times 290) / 330$
- ☐ B $(1800 \times 330) / 370$
- ☐ C $(1800 \times 330) / 280$
- ☐ D $(1800 \times 330) / 380$

72. A body is having weight 20 N, when the elevator is descended with a $a = 0.1 \text{ ms}^{-2}$, then the value of tension 'T' is:

- ☐ A 196 N
- ☐ B 19.8 N
- ☐ C 1.98 N
- ☐ D 2 N

73. A uniform wire of resistance 3 ohm is folded in such a way that it forms an equilateral triangle, then what is its resistance across the ends of any two vertices?

- ☐ A 2 ohm
- ☐ B 3 ohm
- ☐ C $2/3$ ohm
- ☐ D $3/2$ ohm

74. The counter torque produced in the moving coil of generator is called:

- ☐ A resotoring torque
- ☐ B defelection torque
- ☐ C back motor effect
- ☐ D all of these

75. When β -particle is emitted from lead($^{82}\text{Pb}_{212}$), the mass number and charge number of bismuth formed are

- ☐ A $^{83}\text{Bi}_{212}$
- ☐ B $^{81}\text{Bi}_{210}$
- ☐ C $^{85}\text{Bi}_{210}$
- ☐ D None of these

76. Which of the following statement shows that no work is done?

- ☐ A Pushing a car to start it moving
- ☐ B Lifting the weights.
- ☐ C The moon Orbiting the earth.
- ☐ D Writing an essay on a page.

77. A force of 500 N is applied to one end of a cylindrical steel rod of diameter 50cm, the tensile stress is;

- ☐ A $1.5 \times 10^5 \text{ Nm}^{-2}$
- ☐ B $2.5 \times 10^5 \text{ Nm}^{-2}$
- ☐ C $2.5 \times 10^3 \text{ Nm}^{-2}$
- ☐ D $1 \times 10^5 \text{ Nm}^{-2}$

78. The process of conversion of AC into DC is called:

- ☐ A Rectification
- ☐ B Amplification
- ☐ C Rectifier
- ☐ D Conversion

79. First law of thermodynamics is based on

- ☐ A Law of conservation of momentum
- ☐ B Law of conservation of mass
- ☐ C Law of conservation of charge
- ☐ D Law of conservation of energy

80. If an object is revolving in circular path of Radius 2m and during its motion, it traverses An arc of length 4m then the angle (in radians) Made at the center of the circle by this arc is:

- ☐ A 2 rad
- ☐ B 1 rad
- ☐ C 2π rad
- ☐ D None of the above

**English**

5 MCQs

81. In each of the following questions, four alternative sentences are given. Choose the CORRECT one and fill in the Circle corresponding to that letter in the MCQ Response Form.

- ☐ A They felt bad while leaving their friends.
- ☐ B They felt very badly about leaving their friends.
- ☐ C They felt badly about leaving their friends.
- ☐ D They felt badly while teaving their friends.

82. Which one of the following sentences exemplifies the use of Irony?

- ☐ A A fire station burnt down
- ☐ B I must be cruel inly to be kind
- ☐ C It is a hot and humid today.
- ☐ D Hope for the Best; Prepare for the worst

83. Identify which one of the following sentences contains transitive verb:

- ☐ A She blushed furiously.
- ☐ B We all laughed.
- ☐ C You walked hurriedly.
- ☐ D Please put your shoes in the cupboard.

84. Identify the errors and choose the correct option:

- ☐ A Guliver travels was written to Swift.
- ☐ B Guliver travels was written at Swift.
- ☐ C Guliver's Travels was written by Swift.
- ☐ D Gulivers' Travel was written by Swift.

85. The military coup in the country brought an end to _ rule by the emperor.

- ☐ A Omnipotent
- ☐ B Almighty
- ☐ C Dictatorial
- ☐ D Monopolistic





General Knowledge

5 MCQs

86. When was the World Trade Center destroyed?

- ☐ A April 4, 1973
- ☐ B September 11, 2001
- ☐ C May 5, 2001
- ☐ D April 4, 1963

87. Cambodia is a _____ asian country?

- ☐ A South East
- ☐ B South west
- ☐ C North South
- ☐ D None of These

88. Which institution was the first attempt in the history towards the formation of the International society nations:

- ☐ A League of Nation
- ☐ B United Nations
- ☐ C International UN Federation
- ☐ D International Institution

89. ECP stands for _____?

- ☐ A Engineering committee of Pakistan
- ☐ B Election Commission of Pakistan
- ☐ C Economic commission of Pakistan
- ☐ D Economic council of Pakistan

90. When is Pi (π) day celebrated all over the world?

- ☐ A 4 March
- ☐ B 10 March
- ☐ C 14 March
- ☐ D 20 March



Pakistan Studies

4 MCQs

91. Sir Syed Ahmad Khan set himself to the task of protecting which language?

- ☐ A Arabic
- ☐ B Urdu
- ☐ C Farsi
- ☐ D Hindi

92. A ceasefire came into effect in Siachen in _____?

- ☐ A 2003
- ☐ B 2007
- ☐ C 2010
- ☐ D None of these

93. When did Quaid-e-Azam start his legal practice in Bombay (Mumbai) ?

- ☐ A 1796
- ☐ B 1996
- ☐ C 1896
- ☐ D 1895

94. The number of rivers in Sindh is _____ ?

- (A) 3
- (B) 4
- (C) 2
- (D) 5



Pakistan Current Affairs

3 MCQs

95. State Bank recently grants banking licence to which Chinese Bank ?

- (A) Bank of China
- (B) China Everbright Bank
- (C) Hua Xia Bank
- (D) Hua Xia Bank

96. The leading wickets taker in PSL 2019 was?

- (A) Umer Khan
- (B) Wahab Riaz
- (C) Hassan Ali
- (D) Fahim Ashraf

97. The Pakistan Space and Upper Atmosphere Research Commission (Suparco) inked deal with whom to acquire communication satellite (PakSat-MM1)?

- (A) Aerospace company of China
- (B) China Great Wall Industry Cooperation (CGWIC)
- (C) Aerospace companies of Australia
- (D) Aerospace companies of USA



Islamic Studies

2 MCQs

98. King Herodus was the ruler of Palestine at the birth of Hazrat Issa (AS); and he ordered the execution of _____ who was son of Hazrat Zakriya (AS) and cousin of Hazrat Issa (AS)?

- (A) Hazrat Loot (AS)
- (B) Hazrat Hood (AS)
- (C) Hazrat Haroon (AS)
- (D) Hazrat Yahya (AS)

99. What is the name of the Angel who brings rain?

- (A) Jibra'il (A.S)
- (B) Israfil (A.S)
- (C) Mika'il (A.S)
- (D) Azrael (A.S)



Computer Science and IT

1 MCQs

100. in the context of animations, what is a trigger in Microsoft PowerPoint?

- (A) An action button that advances to the next slide
- (B) An item on the slide that performs an action when clicked
- (C) The name of a motion path
- (D) All of above

Answer key

Tap any answer to open its full explanation on TestUstad.

Model Paper 1

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



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