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MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION
Federal State Autonomous Educational Institution
Higher Education
"NORTH CAUCASUS FEDERAL UNIVERSITY"

APPROVED BY
Acting Director of the Institute
Advanced Engineering
Cand. Tech. Sci., Associate Professor
A.A. Porokhnya

DISCIPLINE ASSESSMENT TOOLS FUND
Physics I/College Physics I

Field of study	11.03.02 Infocommunication Technologies and Communication Systems
Profile	Intelligent Data Processing in Infocommunication Systems and Networks
Year of start of training	2026
Form of study	Full-time
Implemented in a semester	2 & 3

Introduction

1. Purpose

The fund of assessment tools for the discipline "Physics I/College Physics I" is designed for an objective assessment of the level of competence formation.

2. FOS is an appendix to the program of the discipline "Physics I/College Physics I".

3. The developer is V.Y. Martens, Associate Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

4. An examination of the FOC was carried out.

Members of the expert group:

Chairman: V.P. Mochalov, Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

Members of the Commission:

S.V. Yakovlev, Associate Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

S.V. Melnikov, Senior Researcher of the Interdisciplinary Training and Research Center for Agricultural Technologies, Associate Professor of the Department of Digital, Robotic Systems and Electronics of the Institute of Advanced Engineering.

Representative of the employer's organization:

Mironov V.A., General Director of Orintex LLC.

Expert opinion: The FAT for the discipline allows you to assess the level of competence formation. Start approbation.

5. The validity period of the FAT is determined by the period of implementation of the educational program.

1. Description of indicators and assessment criteria at various stages of their formation, description of assessment scales

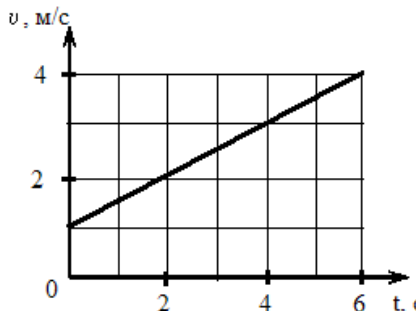
Levels of competence formation(s), indicator(s)	Levels of competence formation(s),			
	The minimum level has not been reached (Unsatisfactory) 2 points	Minimum level (satisfactory) 3 points	Intermediate level (good) 4 points	High level (excellent) 5 points
Competency: OPK-1				
ID-1OPK-1 Understands the fundamental laws of nature and the basic physical and mathematical laws	Demonstrates a lack of knowledge of the fundamental laws of nature and the basic laws of physics	Demonstrates a basic level of knowledge of the fundamental laws of nature and basic physical laws	Demonstrates a level of knowledge in the field of fundamental laws of nature and basic physical laws, sufficient for independent solution of physical problems	Demonstrates a high level of knowledge in the field of fundamental laws of nature and basic physical laws when solving physical problems independently
ID-2OPK-1 Applies physical laws and mathematical methods to solve problems of theoretical and applied nature	Demonstrates the lack of skills in applying physical laws to solve problems of a theoretical and applied nature	Demonstrates a basic level of skills in applying physical laws to solve problems of a theoretical and applied nature	Demonstrates a level of skill that allows you to independently apply physical laws to solve problems of a theoretical and applied nature	Demonstrates a high level of skill in the independent application of physical laws to solve problems of a theoretical and applied nature
ID-3OPK-1 Uses knowledge of physics and mathematics to solve practical problems	Demonstrates a low level of knowledge of physics in solving practical problems	Demonstrates a basic level of knowledge of physics in solving practical problems	Demonstrates a level of knowledge of physics sufficient to solve practical problems independently	Demonstrates a high level of knowledge of physics when solving practical problems independently
Competency: OPK-2				
ID-1OPK-2 Finds and critically analyzes the information necessary to solve the problem.	Unable to find and critically analyze the information necessary to solve the problem	Experiences significant difficulties in independently finding and critically analyzing the information	Has some difficulties in independently finding and critically analyzing the information necessary to	Independently finds and critically analyzes the information necessary to solve the problem

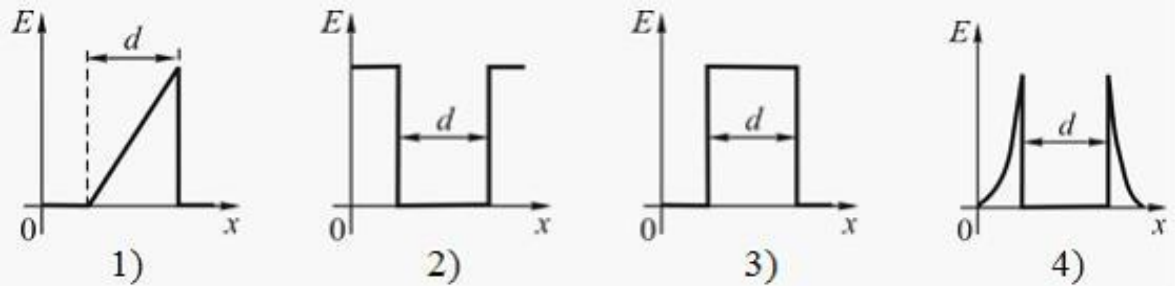
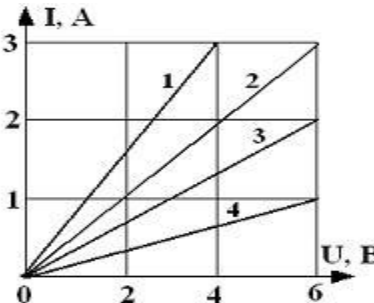
		necessary to solve the problem	solve the problem	
ID-2OPK-2 Develops a solution to a specific problem, choosing the best option, evaluating its advantages and disadvantages.	Is not able to develop possible options for solving a problem, evaluating their advantages and disadvantages, choosing the most optimal option for solving the problem	Experiences significant difficulties in the independent development of possible options for solving the problem, evaluating their advantages and disadvantages, choosing the most optimal option for solving the problem	Experiences some difficulties in independently developing possible options for solving the problem, evaluating their advantages and disadvantages, choosing the most optimal option for solving the problem	Independently develops possible options for solving the problem, evaluating their advantages and disadvantages, choosing the most optimal option for solving the problem
ID-3OPK-2 Understands the basic methods and means of conducting experimental research, standardization and certification systems.	Demonstrates a lack of knowledge of methods and means of conducting experimental research	Demonstrates a basic level of knowledge of methods and means of conducting experimental research	Demonstrates the level of knowledge of methods and means of conducting experimental research, sufficient within the framework of the task	Demonstrates a high level of knowledge of methods and means of conducting experimental research
ID-4OPK-2 selects methods and means of measurement and conducts experimental research.	Is not able to choose methods and means of measurement and conduct experimental research.	Experiences significant difficulties in independently choosing methods and means of measurement and conducting experimental research	Experiences some difficulties in independently choosing methods and means of measurement and conducting experimental research	Independently chooses methods and means of measurement and conducts experimental research.
ID-5OPK-2 is proficient in the methods of processing and presenting the data obtained and assessing the error of measurement results.	Does not know how to process and present the data obtained and assess the error of measurement results	Has significant difficulties in independently applying methods for processing and presenting the data obtained and assessing the error of measurement results	Experiences some difficulties in independently applying methods of processing and presenting the data obtained and assessing the error of measurement results	Independently applies methods of processing and presenting the data obtained and assessing the error of measurement results

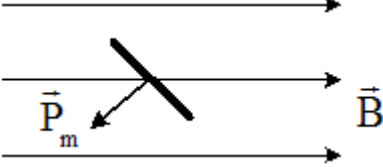
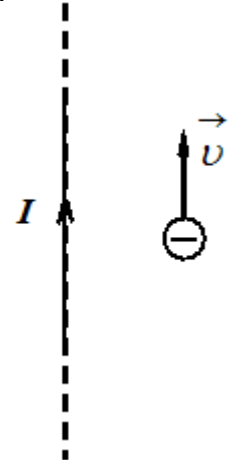
Assessment of the level of competence in the discipline is carried out on the basis of the "Regulation on the current monitoring of progress and intermediate certification of students in educational programs of higher education - bachelor's programs, specialist programs, master's programs - in the Federal State Autonomous Educational Institution of Higher Education "North Caucasus Federal University" in the current edition.

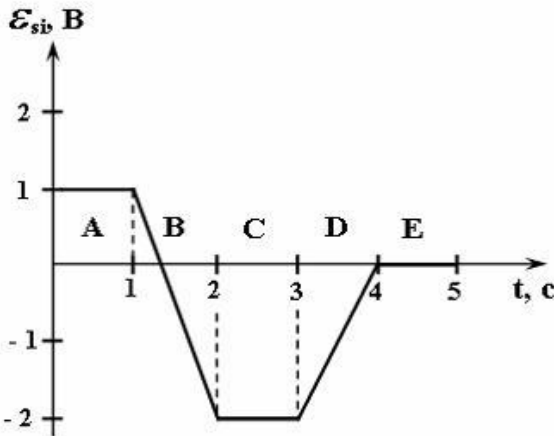
ASSESSMENT TOOLS TO CHECK THE LEVEL OF FORMATION OF COMPETENCIES

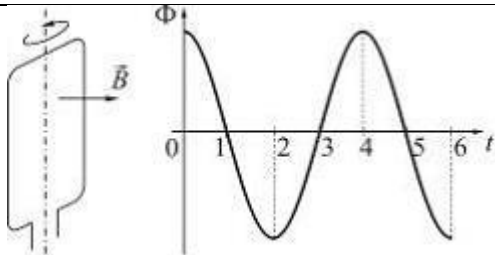
Job Number	Correct answer	Content of the question	Competence
1 semester			
1.	c	The disk rotates on its axis, changing the projection of the angular velocity $\omega_z(t)$ as shown in the figure. The angular velocity vector ω and the angular acceleration vector ε pointing in opposite directions at time intervals: (a) 0 to t_1 and t_1 to t_2 (b) 0 to t_1 and t_2 to t_3 (c) T_1 to T_2 and T_3 to T_4 (d) 0 to t_1 and t_3 to t_4	OPK-1
2.	b	In what time did the body reduce its velocity from 14 m/s to 10 m/s on a path of 120 m with an equally alternating motion? (a) 90 s (b) 10 s (c) 30 s (d) 15 s (e) 1500 s	OPK-1
3.	d	The equation of oscillations of the point has the form $x = 4\sin 5t$. (a) 2 m/s (b) 10 m/s (c) 20 m/s (d) 0.2 m/s	OPK-1

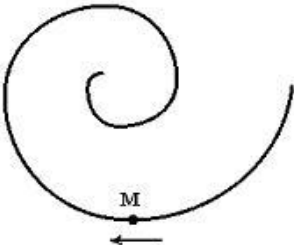
4.		A rigid body rotates around a fixed axis. The velocity of a point located at a distance of 10 cm from the axis changes with time in accordance with the graph shown in the figure. The dependence of the angular velocity of a body on time (in SI units) is given by the equation: a) $\omega = 10 + 5 \cdot t$ b) $\omega = 0,1 \cdot (1 + 0,5 \cdot t)$ c) $\omega = 10 = 7,5 \cdot t$ d) $\omega = 0,1 \cdot (1 + 7,5 \cdot t)$		OPK-1
5.		The particle from the state of rest began to move along the arc of a circle of radius $R = 2$ m with an angular velocity, the modulus of which changes over time according to the law $\omega = 2t^2$. The ratio of normal acceleration to tangential acceleration after 2 seconds is equal to a) 1 b) 2 c) 4 d) 8	OPK-1	
6.		The motion of a point along the x-axis is described by the equation: $x = 6 - t + t^2$ (m). Which of the following expressions corresponds to the dependence of the velocity projection on the x-axis of this body on time? a) $v_x = 1 + t$; m/s b) $v_x = 1 - 2t$; m/s c) $v_x = 6 - t$; m/s d) $v_x = -1 + 2t$; m/s e) $v_x = -1 + t$; m/s	OPK-1	
7.	c	An electrostatic field is said to be homogeneous if: a) The intensity at all points is equal modulo; (b) Intensity flux is determined by multiplying the intensity multiplied by the area (c) The intensity at all points is the same modulus and direction; d) Field strength is 0; e Tension at all points is directed in the same way	OPK-1	

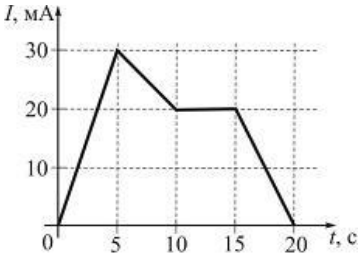
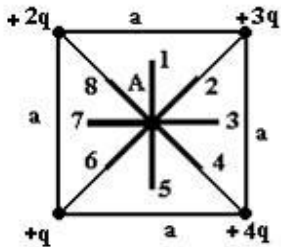
8.		An electrostatic field is formed by two parallel infinite planes charged with charges of different names with the same surface charge density. The distance between the planes is <i>equal to d</i>. The distribution of the intensity E of such a field along the x-axis perpendicular to the planes is correctly  shown in the figure 1 2 3 4	OPK-1
9.		A current of 2 A flows through a lamp connected to a current source with an emf of 8 V and an internal resistance of 1 Ohm. 1 2 3 4 	OPK-1
10.		How many equal parts do you need to cut a wire with a resistance of 48 ohms in order to get a resistance of 3 ohms when these parts are connected in parallel? 4 3 6 12	OPK-1

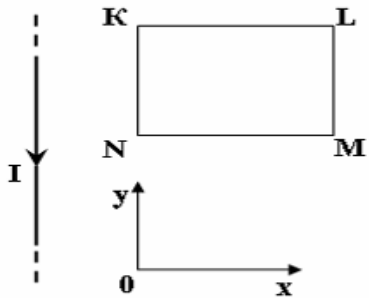
11.	a	A frame with a current with a magnetic moment P_m, the direction of which is indicated in the figure, is in a homogeneous magnetic field:  The moment of forces acting on the frame is directed ... a) perpendicular to the plane of the drawing to us b) perpendicular to the plane of the drawing away from us c) in the direction of the magnetic induction vector B d) opposite to the magnetic induction vector B	OPK-1
12.	a	The electron flies into the magnetic field created by a rectilinear long conductor with current, in the direction parallel to the conductor (see Fig.). At the same time, the Lorentz force acting on the electron ...  a) lies in the plane of the drawing and points to the right b) Lies in the plane of the drawing and points to the left c) perpendicular to the plane of the drawing and directed "away from us" d) perpendicular to the plane of the drawing and directed "towards us"	OPK-1

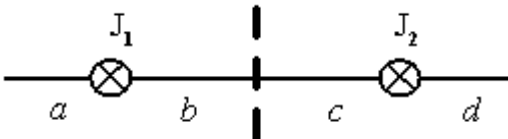
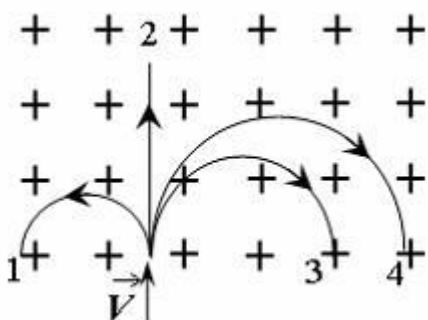
13.		The figure shows the dependence of the EMF of induction in the circuit on time. The magnetic flux through the area bounded by the circuit increases with time according to the law $\Phi = at^2 + bt + c$ (a, b, c – constants) in the interval ...  A In S D E	OPK-1
14.		The conductive frame rotates with a constant angular velocity in a uniform magnetic field around an axis lying in the plane of the frame and perpendicular to the induction vector $\vec{B}$ (see Fig.). The figure also shows a graph of the flux time of the magnetic induction vector penetrating the frame. If the maximum value of the magnetic flux $\Phi_m = 4$ mVb, the resistance of the frame $R = 314$ is Ohm, and the time was measured in seconds, then the law of change in the intensity of the induction current with time is as follows...	OPK-1

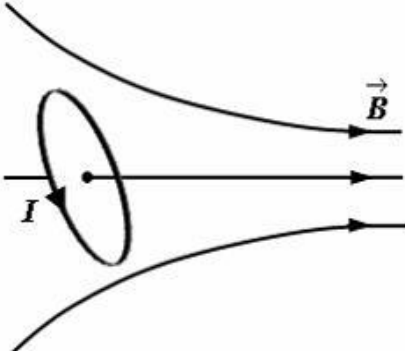
		 a) $J_i = 2 \cdot 10^{-5} \sin 0,5\pi t$ b) $J_i = 2 \cdot 10^{-5} \cos 0,5\pi t$ c) $J_i = 2 \cdot 10^{-2} \cos \pi t$ d) $J_i = 2 \cdot 10^{-2} \sin \pi t$	
15.		A conducting flat circuit with an area of 100 cm^2 is located in a magnetic field perpendicular to the magnetic induction lines. If the magnetic induction changes according to the law $B = (2 - 3t^2) \cdot 10^{-3} \text{ T}$, then the EMF of induction occurring in the circuit at a time ($t = 2 \text{ s}$ in mV) is equal to ... a) 120 b) 0,12 c) 1,2 d) 12	OPK-1
16.	b	The last quarter of its way was passed by a uniformly moving body in 2.5 s. How long did it take to go all the way? (a) 12.5 s (b) 10 s (c) 7.5 s (d) 5 s	OPK-2

17.	c	The point M moves in a spiral with a uniformly increasing velocity in the direction indicated by the arrow. In this case, the value of the total acceleration of the point: (a) Decreases (b) Unchanged (c) Increases (d) Is equal to zero		OPK-2
18.	d	Three bodies moving uniformly with velocities $v_1 = 36 \text{ cm/h}$, $v_2 = 0.01 \text{ m/s}$, $v_3 = 10 \text{ mm/s}$, have passed the same path S. In which of the following relations are their times of motion interrelated? a): $t_2 < t_3 < t_1$ b) $t_2 = t_3 = t_1$ c) $t_2 = t_3 > t_1$ d): $t_2 = t_3 < t_1$ e) $t_2 > t_3 < t_1$		OPK-2
19.		The motion of a point along the x-axis is described by the equation: $x = 6 - t + t^2 \text{ (m)}$. Which of the following expressions corresponds to the dependence of the velocity projection on the x-axis of this body on time? a) $v_x = 1 + t; \text{ m/s}$ b) $v_x = 1 - 2t; \text{ m/s}$ c) $v_x = 6 - t; \text{ m/s}$ d) $v_x = -1 + 2t; \text{ m/s}$ e) $v_x = -1 + t; \text{ m/s}$		OPK-2
20.		In what period of time after the beginning of oscillations will the displacement of the point from the equilibrium position be equal to half of the amplitude, if the oscillation period is 24 s, the initial phase is zero. Oscillations occur according to the law of sinus: (a) 12 s (b) 6 s (c) 3 s (d) 2 s		OPK-2
21.		A wave propagates over the surface of the water. The distance between the nearest "hump" and the "trough" is 2 m. What is the wavelength?		OPK-2

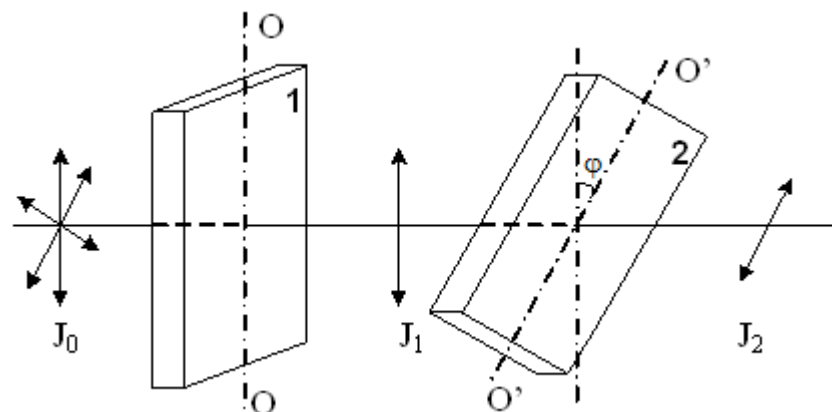
		(a) 4 m (b) 2 m (c) 6 m (d) 8 m	
22.	c	How many times will the force of interaction of two point charges in a medium with a permittivity of 8 change if they are transferred to a vacuum and the distance between them is doubled? a) Will increase by a factor of 16. b) It will be reduced by 2 times. c) It will increase by 2 times. d) It will increase by 4 times. e) It will be reduced by 4 times.	OPK-2
23.		The figure shows the dependence of the current in an electrical circuit on time. What charge will flow through the cross-section of the conductor in the time interval 15-20 s? (a) 125 mL (b) 100 mL (c) 75 mL (d) 50 mL	OPK-2 
24.		The electrostatic field is created by a system of point charges. The vector of the field intensity E at point A is oriented in the direction 1 7 5 2 4 3 8 6	OPK-2 

25.		Electrical wiring should be made of a sufficiently thick wire so that it does not heat up too much and does not create a fire hazard. If the wiring is designed for a maximum current of 16 A and no more than 2 W of heat should be generated on a running meter of wire, then the diameter of the copper wire (taking into account the fact that the resistivity of copper is $17\text{ n}\Omega\cdot\text{m}$) is equal to: (a) 0.83 mm (b) 1.7 mm (c) 0.97 mm (d) 1.5 mm	OPK-2
26.	b	A rectangular wire frame is located in the same plane with a rectilinear long conductor through which current I. Induction current in the frame will be directed counterclockwise when it ...  (a) Negative translational movement of the OX axis (b) Positive forward movement of the OX axis (c) Translational movement in the positive direction of the OY axis (d) Rotation around an axis coinciding with a long conductor	OPK-2
27.	b	The proton flies into a uniform magnetic field perpendicular to the magnetic induction lines and begins to move in a circle. With an increase in the kinetic energy of the proton (if $v \ll c$) by 100 times, the radius of the circle ... a) will increase by a factor of 100 (b) will increase by a factor of 10 (c) will be reduced by a factor of 100 (d) Will be reduced by a factor of 10	OPK-2

28.	The figure shows the cross-sections of two parallel rectilinear long conductors with equally directed currents, with $J_2=2J_1$. The induction $\vec{B}$ of the resulting magnetic field is equal to zero at some point in the interval ...  a b c d	OPK-2
29.	The figure shows the trajectories of charged particles flying at the same speed into a homogeneous magnetic field perpendicular to the plane of the figure. At the same time, for charges and specific charges of particles, the statement is true...  a) $q_1 > 0, q_2 = 0, \left(\frac{q}{m}\right)_1 > \left(\frac{q}{m}\right)_3 > \left(\frac{q}{m}\right)_4$ b) $q_1 > 0, q_2 = 0, \left(\frac{q}{m}\right)_1 < \left(\frac{q}{m}\right)_3 < \left(\frac{q}{m}\right)_4$	OPK-2

		c) $q_3 < 0, q_4 < 0, \left(\frac{q}{m}\right)_1 < \left(\frac{q}{m}\right)_3 < \left(\frac{q}{m}\right)_4$ d) $q_3 > 0, q_4 > 0, \left(\frac{q}{m}\right)_1 > \left(\frac{q}{m}\right)_3 > \left(\frac{q}{m}\right)_4$	
30.		A small circuit with current I is placed in an inhomogeneous magnetic field with induction $\vec{B}$. The plane of the contour is perpendicular to the plane of the drawing, but not perpendicular to the induction lines.  a) will turn clockwise and shift to the right (b) Rotates counterclockwise and shifts to the right (c) Rotates counterclockwise and shifts to the left (d) Rotates clockwise and shifts to the left	OPK-2
Semester 2			
31.	b	The analyzer reduces the intensity of linearly polarized light coming to it from the polarizer by 2 times. If a quartz plate is mixed between the polarizer and the analyzer, the light will not pass through such a system. At the same time, the quartz plate rotates the polarization plane by an angle equal to ... a) 60°	OPK-1

		b) 45° c) 30° d) 90°	
32.		Natural light falls on a system of 5 polaroids arranged in series, and the transmission plane of each subsequent polaroid forms an angle of 30° with the transmission plane of the previous one. If the absorption of light in polaroids can be neglected, then the intensity J of light at the output of the system is related to the intensity of J_0 light at the input by the ratio ... a) $J = \frac{1}{2} \cdot \left(\frac{3}{4}\right)^4 J_0$ b) $J = \left(\frac{3}{4}\right)^5 J_0$ c) $J = \frac{1}{2} \cdot \left(\frac{\sqrt{3}}{2}\right)^4 J_0$ d) $J = \left(\frac{\sqrt{3}}{2}\right)^5 J_0$	OPK-1
33.		Two tourmaline plates are placed in the path of natural light. After passing through plate 1, the light is completely polarized. If J_0 is the intensity of natural light, and J_1 and J_2 are the intensities of the light that has passed through the plates 1 and 2 respectively, then at an angle φ between the directions OO and O'O' equal to 30°, J_2 and J_0 are connected by the ratio ...	OPK-1



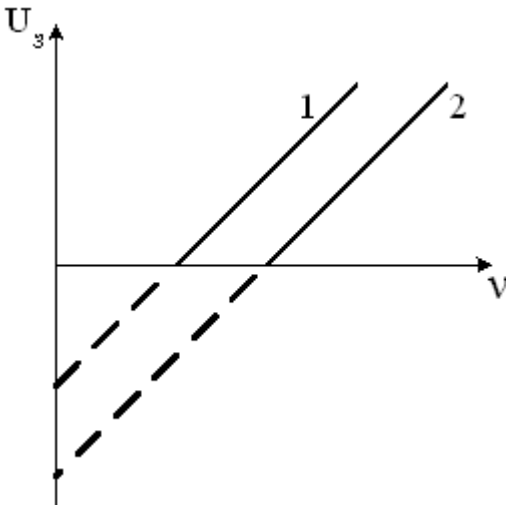
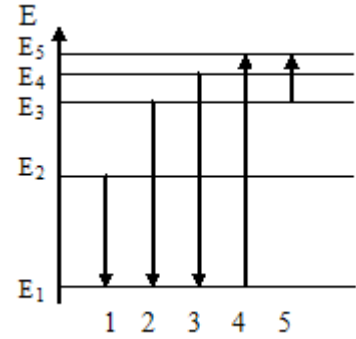
- a) $J_2 = \frac{3}{8} J_0$
- b) $J_2 = \frac{1}{4} J_0$
- c) $J_2 = \frac{1}{8} J_0$
- d) $J_2 = \frac{3}{4} J_0$

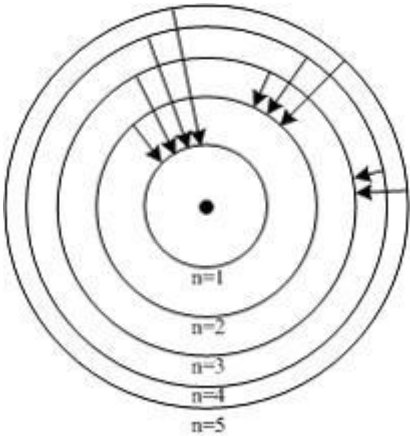
34.

c

In the study of the external photoelectric effect, two dependencies of the arresting voltage U_3 on the frequency ν of incident light were obtained (see Fig.). It is true to say that the dependencies were obtained for ...

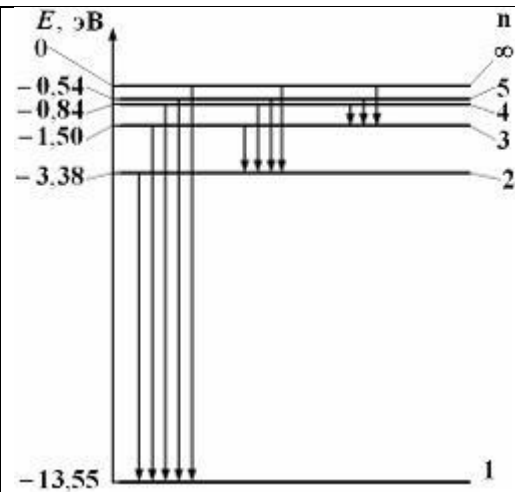
OPK-1

		 a) two different metals; wherein the yield work for the first metal is greater (b) The same metal at different illuminations; the illumination of the first metal being greater c) two different metals; wherein the yield work for the second metal is greater (d) The same metal at different illuminations; the illumination of the second metal being greater	
35.	3	The figure shows a diagram of the energy levels of a hydrogen atom. The emission of the photon with the shortest wavelength occurs at the transition indicated by the arrow number ...  2 3 1	OPK-1

		4 5	
36.		The figure schematically depicts stationary orbits of an electron in a hydrogen atom according to the Bohr model, and also shows the transitions of an electron from one stationary orbit to another, accompanied by the emission of a quantum of energy. In the ultraviolet region of the spectrum, these transitions give the Lyman series, in the visible region – the Balmer series, and in the infrared – the Paschen series. The highest frequency of the quantum in the Paschen series (for the transitions shown in the figure) corresponds to the transition ...  a) $n = 4 \rightarrow n = 3$ b) $n = 5 \rightarrow n = 3$ c) $n = 5 \rightarrow n = 2$ d) $n = 5 \rightarrow n = 1$	OPK-1
37.		The cathode of a vacuum photocell is illuminated by light with an energy of quanta of 10 eV. If the photocurrent is stopped when a 4 V retarding voltage is applied to the photocell, then the work of the electrons leaving the cathode (in eV) is equal to ... a) 6 b) 14 c) 7	OPK-1

		d) 3	
38.	a	When a photon is scattered by a free electron, the kinetic energy of the electron's recoil will be maximal if the scattering angle in degrees is equal to ... a) 180 b) 90 c) 45 d) 0	OPK-1
39.		A stream of light falls on the black plate. If the number of photons falling per unit surface area per unit time is increased by a factor of 4, and the black plate is replaced by a mirror plate, then the light pressure will increase by _____ times. a) 8 b) 2 c) 4 d) 10	OPK-1
40.		The phenomenon of the external photoelectric effect is observed. At the same time, with a decrease in the wavelength of the incident light... (a) The value of the retarding potential difference increases b) the kinetic energy of electrons decreases c) the red limit of the photoelectric effect increases d) photon energy decreases	OPK-1
41.	b	A plate of optically active substance with a thickness $d = 2 \text{ mm}$ was placed between parallel nicols, as a result of which the plane of polarization of monochromatic light was rotated by an angle $\varphi = 30^\circ$. The field of view of the polarimeter will become completely dark at a minimum thickness (in mm) of the plate equal to ... a) 1,5 b) 6 c) 0,7 d) 3	OPK-2
42.		What is necessary and sufficient for the interference of two waves? a) the same amplitude and the same frequency	OPK-2

		(b) the same amplitude, the same frequency and the same direction of oscillation (c) Same frequency and direction of oscillation (d) Constant phase difference for each point and the same direction of oscillation	
43.		From the above statements regarding the addition of waves, indicate the correct one. (a) In the addition of coherent waves, the total intensity is equal to the sum of the intensities of the composed waves (b) In the addition of coherent waves, the total amplitude is equal to the sum of the amplitudes of the folded waves (c) The total interference intensity of two coherent waves depends on the phase difference of the interfering waves (d) In the case of interference of coherent waves of the same intensity, the total intensity is equal to four times the intensity of each wave	OPK-2
44.	b	The principal quantum number n determines... (a) The orbital mechanical moment of the electron in the atom b) the energy of the stationary state of the electron in the atom c) the intrinsic mechanical moment of the electron in the atom (d) Projection of the orbital angular momentum of the electron in a given direction	OPK-2
45.	a	The figure shows a diagram of the energy levels of a hydrogen atom, and also conventionally depicts the transitions of an electron from one level to another, accompanied by the emission of a quantum of energy. In the ultraviolet region of the spectrum, these transitions give the Lyman series, in the visible region – the Balmer series, in the infrared region – the Pachen series, etc.	OPK-2



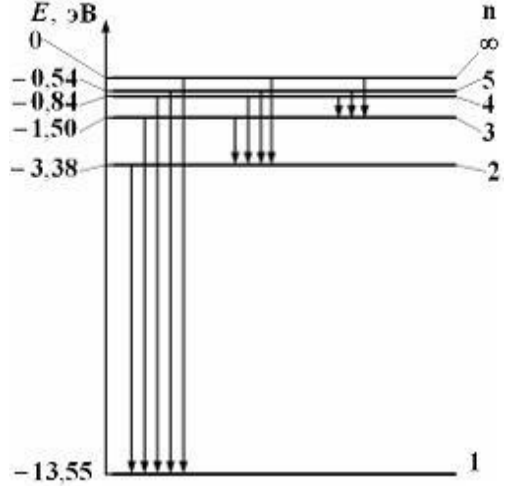
The ratio of the minimum frequency of the line in the Balmer series $\nu_{\min 5}$ to the maximum frequency of the line in the Lyman series of the $\nu_{\max 7}$ spectrum of the hydrogen atom is ...

- a) $\frac{5}{36}$
- b) $\frac{4}{27}$
- c) $\frac{1}{3}$
- d) $\frac{4}{5}$

46.

The figure shows a diagram of the energy levels of a hydrogen atom. The longest wavelength of the spectral line (in nm) of the Lyman series is ... ($h = 6.63 \cdot 10^{-34} J \cdot s$)

OPK-2

		 a) 92 b) 122 c) 661 d) 368	
47.		The phenomenon of the external photoelectric effect is observed. At the same time, with a decrease in the wavelength of the incident light... (a) The value of the retarding potential difference increases b) the kinetic energy of electrons decreases c) the red limit of the photoelectric effect increases d) photon energy decreases	OPK-2
48.	b	With a change in the temperature of the gray body, the maximum spectral density of energy luminosity shifted from $\lambda_1 = 1800 \text{ нм}$. $\lambda_2 = 600 \text{ нм}$ a) increased by 3 times (b) Increased by a factor of 81 c) decreased by 3 times (d) decreased by a factor of 81	OPK-2

49.		Light falling on a metal causes the emission of electrons from the metal. If the intensity of light decreases, but its frequency remains unchanged, then ... (a) The number of knocked out electrons remains unchanged and their kinetic energy decreases (b) The number of electrons knocked out decreases and their kinetic energy remains unchanged (c) The number of electrons knocked out increases and their kinetic energy decreases (d) The number of electrons knocked out and their kinetic energy increase	OPK-2
50.		The pressure p of light on a surface having a reflectance $\rho=0.5$ with an energy illumination of $E=200 \text{ W/m}^2$ is _____ μPa. a) 5 b) 10 c) 1 d) 15	OPK-2

Description of the grading scale

Within the framework of the rating system, the progress of students in each discipline is assessed during current control and intermediate certification

Criteria for assessing competencies

An "excellent" grade is given to a student if he/she fully and accurately performs the tasks of the assessment tools in the discipline related to this competence (indicators of competence achievement), while demonstrating the ability to solve physical problems at a high level.

A grade of "good" is given to a student if he/she, making minor mistakes, performs the tasks of assessment tools in the discipline related to this competence (indicators of competence achievement), while demonstrating the ability to solve typical physical problems at an average level.

A "satisfactory" grade is given to a student if he/she performs the tasks of assessment tools in the discipline related to this competence (indicators of competence achievement), while demonstrating the ability to solve typical physical problems at a minimum level, making mistakes, which are corrected with the help of the teacher's leading questions.

The grade "unsatisfactory" is given to a student if he/she, performing the tasks of the assessment tools in the discipline, does not reach the minimum level of competence formation ((indicators of competence achievement), while not demonstrating the ability to solve typical physical problems, makes gross mistakes that he cannot correct even with the help of leading questions from the teacher.