

Olimpíada Brasileira de Física 2023
Caderno de Respostas - Prova Teórica



Instruções - Preenchimento do UID

- O UID é o seu número de identificação de usuário na OBF 2023.
- Se o seu UID tem menos do que 5 dígitos, complete-o com zeros **à esquerda**. Por exemplo, o usuário de UID 123 deve preencher 00123.
- Abaixo, nos campos destinados ao UID, cada linha deve ter um único quadrado preenchido **completamente** (assim: ■), começando pelo quadrado junto ao número igual ao dígito mais à esquerda de seu UID e assim sucessivamente.
- Por exemplo, o usuário de UID 123, ou seja 00123, deve preencher:

■	0	☐	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
■	0	☐	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
☐	0	■	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
☐	0	☐	1	■	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
☐	0	☐	1	☐	2	■	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9

Instruções - Quadros de Respostas

- Nas páginas seguintes deste caderno há 8 quadros de respostas. **Cada quadro é destinado à resolução de uma única questão.**
- **Identifique cada quadro de respostas preenchendo completamente o pequeno quadrado ao lado do número da questão que está sendo respondida.**
- Um quadro de respostas mal identificado (sem quadrado preenchido, ou com quadrado parcialmente preenchido, ou com mais de um quadrado assinalado) é inválido. Também são inválidos dois quadros de respostas que tenham sido identificados com a mesma questão.
- Há quadros de tamanho simples e duplo, use-os de acordo com sua conveniência. As questões podem ser respondidas em qualquer ordem.

Nome:

UID (leia instruções de preenchimento acima):

☐	0	☐	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
☐	0	☐	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
☐	0	☐	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
☐	0	☐	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9
☐	0	☐	1	☐	2	☐	3	☐	4	☐	5	☐	6	☐	7	☐	8	☐	9

email:

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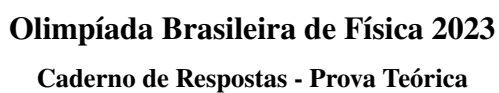


Preencha completamente (assim: ■) o quadrado junto ao número da questão. Use ☐ para anular o quadro.

Questão: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐

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Preencha completamente (assim: ■) o quadrado junto ao número da questão. Use ☐ para anular o quadro.

Questão: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 

Case No.	Case Name	Case Type	Case Status	Case Date	Case Time	Case Location	Case Description	Case Notes	Case Comments
1	John Doe	Medical	Open	2023-01-01	10:00	Room 101	John Doe, 45 years old, male, presented with chest pain and shortness of breath. Vital signs: BP 120/80, HR 90, RR 20, SpO2 95%.	ECG showed sinus tachycardia. Chest X-ray showed clear lung fields.	Diagnosis: Acute coronary syndrome. Treatment: Aspirin, Nitroglycerin.
2	Jane Smith	Medical	Closed	2023-01-02	11:30	Room 102	Jane Smith, 32 years old, female, presented with abdominal pain and nausea. Vital signs: BP 110/70, HR 80, RR 18, SpO2 98%.	ECG showed normal sinus rhythm. Abdominal ultrasound showed no abnormalities.	Diagnosis: Acute gastritis. Treatment: PPI, Antacids.
3	Michael Brown	Medical	Open	2023-01-03	14:00	Room 103	Michael Brown, 60 years old, male, presented with dizziness and lightheadedness. Vital signs: BP 130/90, HR 100, RR 22, SpO2 96%.	ECG showed sinus tachycardia. Blood tests showed normal hemoglobin and hematocrit.	Diagnosis: Orthostatic hypotension. Treatment: Fluids, Salt.
4	Sarah Johnson	Medical	Closed	2023-01-04	16:00	Room 104	Sarah Johnson, 28 years old, female, presented with headache and blurred vision. Vital signs: BP 140/100, HR 85, RR 16, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and cholesterol.	Diagnosis: Hypertension. Treatment: ACE Inhibitors.
5	David Wilson	Medical	Open	2023-01-05	09:00	Room 105	David Wilson, 55 years old, male, presented with fatigue and weakness. Vital signs: BP 125/85, HR 95, RR 19, SpO2 95%.	ECG showed sinus tachycardia. Blood tests showed normal hemoglobin and hematocrit.	Diagnosis: Iron deficiency anemia. Treatment: Iron supplements.
6	Emily Davis	Medical	Closed	2023-01-06	12:00	Room 106	Emily Davis, 38 years old, female, presented with joint pain and swelling. Vital signs: BP 115/75, HR 80, RR 18, SpO2 98%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and cholesterol.	Diagnosis: Osteoarthritis. Treatment: NSAIDs, Physical therapy.
7	Robert Miller	Medical	Open	2023-01-07	15:00	Room 107	Robert Miller, 70 years old, male, presented with confusion and disorientation. Vital signs: BP 135/95, HR 105, RR 21, SpO2 96%.	ECG showed sinus tachycardia. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Delirium. Treatment: Hydration, Oxygen.
8	Lisa Anderson	Medical	Closed	2023-01-08	17:00	Room 108	Lisa Anderson, 42 years old, female, presented with skin rash and itching. Vital signs: BP 120/80, HR 85, RR 18, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and cholesterol.	Diagnosis: Allergic reaction. Treatment: Antihistamines.
9	Christopher Lee	Medical	Open	2023-01-09	08:00	Room 109	Christopher Lee, 50 years old, male, presented with cough and sputum. Vital signs: BP 125/85, HR 95, RR 20, SpO2 95%.	ECG showed sinus tachycardia. Chest X-ray showed clear lung fields.	Diagnosis: Acute bronchitis. Treatment: Inhalers, Antibiotics.
10	Amanda White	Medical	Closed	2023-01-10	13:00	Room 110	Amanda White, 30 years old, female, presented with constipation and abdominal pain. Vital signs: BP 110/70, HR 80, RR 18, SpO2 98%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Constipation. Treatment: Laxatives, Fiber.
11	Kevin Green	Medical	Open	2023-01-11	10:00	Room 111	Kevin Green, 65 years old, male, presented with back pain and stiffness. Vital signs: BP 130/90, HR 90, RR 20, SpO2 96%.	ECG showed sinus tachycardia. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Osteoarthritis. Treatment: NSAIDs, Physical therapy.
12	Nicole Black	Medical	Closed	2023-01-12	14:00	Room 112	Nicole Black, 40 years old, female, presented with urinary frequency and urgency. Vital signs: BP 115/75, HR 85, RR 18, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Urinary tract infection. Treatment: Antibiotics.
13	Brandon Hall	Medical	Open	2023-01-13	16:00	Room 113	Brandon Hall, 58 years old, male, presented with vision changes and dizziness. Vital signs: BP 140/100, HR 100, RR 22, SpO2 96%.	ECG showed sinus tachycardia. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Hypertension. Treatment: ACE Inhibitors.
14	Stephanie King	Medical	Closed	2023-01-14	09:00	Room 114	Stephanie King, 35 years old, female, presented with skin rash and itching. Vital signs: BP 120/80, HR 85, RR 18, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and cholesterol.	Diagnosis: Allergic reaction. Treatment: Antihistamines.
15	Timothy Scott	Medical	Open	2023-01-15	11:00	Room 115	Timothy Scott, 62 years old, male, presented with chest pain and shortness of breath. Vital signs: BP 125/85, HR 95, RR 20, SpO2 95%.	ECG showed sinus tachycardia. Chest X-ray showed clear lung fields.	Diagnosis: Acute coronary syndrome. Treatment: Aspirin, Nitroglycerin.
16	Michelle Adams	Medical	Closed	2023-01-16	13:00	Room 116	Michelle Adams, 48 years old, female, presented with joint pain and swelling. Vital signs: BP 115/75, HR 85, RR 18, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and cholesterol.	Diagnosis: Osteoarthritis. Treatment: NSAIDs, Physical therapy.
17	Gregory Baker	Medical	Open	2023-01-17	15:00	Room 117	Gregory Baker, 72 years old, male, presented with confusion and disorientation. Vital signs: BP 135/95, HR 105, RR 21, SpO2 96%.	ECG showed sinus tachycardia. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Delirium. Treatment: Hydration, Oxygen.
18	Heather Clark	Medical	Closed	2023-01-18	17:00	Room 118	Heather Clark, 33 years old, female, presented with skin rash and itching. Vital signs: BP 120/80, HR 85, RR 18, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and cholesterol.	Diagnosis: Allergic reaction. Treatment: Antihistamines.
19	Jonathan Lewis	Medical	Open	2023-01-19	08:00	Room 119	Jonathan Lewis, 53 years old, male, presented with cough and sputum. Vital signs: BP 125/85, HR 95, RR 20, SpO2 95%.	ECG showed sinus tachycardia. Chest X-ray showed clear lung fields.	Diagnosis: Acute bronchitis. Treatment: Inhalers, Antibiotics.
20	Christina Walker	Medical	Closed	2023-01-20	10:00	Room 120	Christina Walker, 43 years old, female, presented with constipation and abdominal pain. Vital signs: BP 110/70, HR 80, RR 18, SpO2 98%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Constipation. Treatment: Laxatives, Fiber.
21	Benjamin Young	Medical	Open	2023-01-21	12:00	Room 121	Benjamin Young, 68 years old, male, presented with back pain and stiffness. Vital signs: BP 130/90, HR 90, RR 20, SpO2 96%.	ECG showed sinus tachycardia. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Osteoarthritis. Treatment: NSAIDs, Physical therapy.
22	Rebecca Hall	Medical	Closed	2023-01-22	14:00	Room 122	Rebecca Hall, 38 years old, female, presented with urinary frequency and urgency. Vital signs: BP 115/75, HR 85, RR 18, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Urinary tract infection. Treatment: Antibiotics.
23	Christopher King	Medical	Open	2023-01-23	16:00	Room 123	Christopher King, 55 years old, male, presented with vision changes and dizziness. Vital signs: BP 140/100, HR 100, RR 22, SpO2 96%.	ECG showed sinus tachycardia. Blood tests showed normal blood sugar and electrolytes.	Diagnosis: Hypertension. Treatment: ACE Inhibitors.
24	Michelle Scott	Medical	Closed	2023-01-24	09:00	Room 124	Michelle Scott, 45 years old, female, presented with skin rash and itching. Vital signs: BP 120/80, HR 85, RR 18, SpO2 97%.	ECG showed normal sinus rhythm. Blood tests showed normal blood sugar and cholesterol.	Diagnosis: Allergic reaction. Treatment: Antihistamines.
25	Gregory Adams	Medical	Open	2023-01-25	11:00	Room 125	Gregory Adams, 63 years old, male, presented with chest pain and shortness of breath. Vital signs: BP 125/85, HR 95, RR 20, SpO2 95%.	ECG showed sinus tachycardia. Chest X-ray showed clear lung fields.	Diagnosis: Acute coronary syndrome. Treatment: Aspirin, Nitroglycerin.
26	Heather Baker	Medical	Closed						



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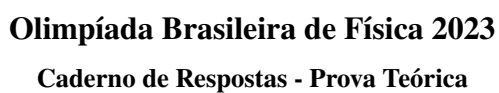
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Questão: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 

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Questão: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐

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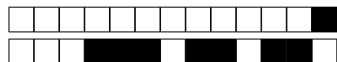


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Em cada quadro, preencha completamente (assim: ■) o quadrado junto ao número da questão. Use  para anular o quadro.

Questão: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 

Questão: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐ 11 ☐ 12 ☐ 