Notes in physics:

Edited at 2pm 25.9.2019.

These notes are to help you in solving task.

s is your student number.

k = s mod 10000. T = s mod 100.

m35 = s mod 35. m25 = s mod 25. m20 = s mod 20.

m10 = s mod 10. m9 = s mod 9. m8 = s mod 8. m7 = s mod 7. m6 = s mod 6.

m5 = s mod 5. m4 = s mod 4. m3 = s mod 3. m2 = s mod 2.

1. Why do you need physics?

Write why you need physics.

I need physics because it is my job and useful for chemistry, biology, and economics.

2. Do what you like in physics.

Try to enjoy physics.

3. Will moving or static egg crack? Explain dynamic coefficient and attack vs. defense.

Use answer to this question in finding the best ways to protect your safety.

4. Explain efficiency of truck and trolley.

Many trucks and trolleys are in Indonesia and other countries. We must know which one to use and how to save energy, money, time, effort, etc.

5. Do big or small wheals give more power.

We can see bikes with big and small wheals. We must know how to use them.

6. Why does cat sit on its curved legs?

We often see cats sitting on their curved legs. We must know why.

7. Do your project.

Choose topic and write research paper about it.

8. What is physics of social media?

Predict physical characteristics of people and robots in social media.

9. Study physics of songs.

Try to understand why some songs are popular, using physics (sounds, frequencies, loudness, lyrics, etc.).

10. Solve Zimmermann problem:

http://74.72.151.186/Contest/Nearness

http://azspcs.com/Contest/Nearness

Solve for m20 + 6.

Improve these solutions:

https://physics16.weebly.com/uploads/5/9/8/5/59854633/4students\_reversing\_nearness\_sep2019.docx

If you cannot register here then submit your solutions to me.

Zimmermann problem of Nearness is similar to finding correct locations of gas particles.

11. What is fractal?

https://en.wikipedia.org/wiki/Fractal

We often use fractals in physics, computer science, computer graphics, computer security, etc.

12. Explain Magnus effect.

https://en.wikipedia.org/wiki/Magnus\_effect

13. Apply for American citizenship:

https://www.dvlottery.state.gov/

14. Apply for scholarships, grants, fellowships of USA, Europe, Canada, Australia, Japan, etc.

15. Study

https://physics15.weebly.com/

https://physics16.weebly.com/

https://physics18.weebly.com/

Try to find something interesting on these web sites.

16.Study math as method of physics.

Calculus is often used in physics.

17. What is least constraint principle?

https://en.wikipedia.org/wiki/Gauss%27s\_principle\_of\_least\_constraint

18. Discuss physics news.

Choose any news, that you are interested in and try to analyze then using physics.

https://en.wikipedia.org/wiki/Physics

https://en.wikipedia.org/wiki/Capital\_of\_Indonesia

https://en.wikipedia.org/wiki/UEFA\_Euro\_2020\_qualifying

https://en.wikipedia.org/wiki/Yemeni\_Civil\_War\_(2015%E2%80%93present)

https://en.wikipedia.org/wiki/Kashmir\_conflict

https://en.wikipedia.org/wiki/2019\_Abqaiq%E2%80%93Khurais\_attack

https://en.wikipedia.org/wiki/Islamic\_State\_of\_Iraq\_and\_the\_Levant

https://en.wikipedia.org/wiki/Al-Qaeda

https://en.wikipedia.org/wiki/Taliban

https://en.wikipedia.org/wiki/Rohingya\_people

https://en.wikipedia.org/wiki/Uyghurs

https://en.wikipedia.org/wiki/Kosovo\_War

https://en.wikipedia.org/wiki/Jamal\_Khashoggi

https://en.wikipedia.org/wiki/Basuki\_Tjahaja\_Purnama

https://en.wikipedia.org/wiki/May\_1998\_riots\_of\_Indonesia

https://en.wikipedia.org/wiki/Indonesian\_mass\_killings\_of\_1965%E2%80%9366

https://en.wikipedia.org/wiki/Brexit

https://en.wikipedia.org/wiki/Julian\_Assange

https://en.wikipedia.org/wiki/Chelsea\_Manning

https://en.wikipedia.org/wiki/Edward\_Snowden

https://en.wikipedia.org/wiki/Noam\_Chomsky

https://en.wikipedia.org/wiki/Annexation\_of\_Crimea\_by\_the\_Russian\_Federation

https://en.wikipedia.org/wiki/War\_in\_Donbass

https://en.wikipedia.org/wiki/Ukrainian\_crisis

19. Study general concepts of mechanics, oscillation, fluid mechanics, thermodynamics, optics, electromagnetism, quantum physics and cosmology.

https://en.wikipedia.org/wiki/Mechanics

https://en.wikipedia.org/wiki/Oscillation

https://en.wikipedia.org/wiki/Fluid\_mechanics

https://en.wikipedia.org/wiki/Thermodynamics

https://en.wikipedia.org/wiki/Optics

https://en.wikipedia.org/wiki/Electromagnetism

https://en.wikipedia.org/wiki/Quantum\_mechanics

https://en.wikipedia.org/wiki/Cosmology

20. How is physics used in computer science?

Cryptography, design of computers, etc.

Answer all these questions the best you can.

Deadline is 25.9.2019.