**Feb Exam Prep 2020 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**The best way to prepare for exams is to review your notes & practice tests, assignments & review material.**

**For this strategy to work:**

1. Re-read you notes. First time: highlight with a dark highlighter the headings and sub-headings. Second time: use a lighter highlighter to highlight details.
2. Practice questions from previous assignments, quizzes & tests without any help from peers or your notes etc.
3. Once finished, check your answers with the answer key. (copied in class & found online)
4. **Carefully reread the questions to determine (using your notes) why you decided on the wrong answer and find the reasoning needed for the correct one. Put an \* next to difficult questions.**
5. Shortly before the exam itself, review the \* questions you found difficult.

**Go to isernhagen.weebly.com**

**For:**

* **Notes**
* **Assignment, Quizzes & Test answer keys**
* **Review sheets & their answers.**
* **Government review document (chapter summaries with sample multiple choice questions & long answer problems with their answers!)**

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|  | **The Material World 3, 4 & 5** |  |
| **6 MC & 3 LA** | **Transformation of energy – Chapter 3** |  |
| 3.0 What is energy |  |
| 3.1 Law of conservation of energy |  |
| 3.2 Energy efficiency % efficiency = used E/available E x 100 |  |
| 3.3 Thermal energy (Heat vs temperature) |  |
| 3.4 Motion & Forces - v= d/∆t practice calculations see assignment |  |
| 3.5 Forces & changes in motion |  |
| 3.6 Gravitational force – mass vs weight F = mg |  |
| 3.7 Electromagnetic force |  |
| 3.8 Frictional force |  |
| 3.9 Strong & weak nuclear forces |  |
| 3.10 Combination of forces (Equilibrium vs resultant force) |  |
| 3.11 What is pressure? |  |
|  | 3.12 Pascal’s Principle P = F/A |  |
|  | 3.13 Archimedes’ principle - floatation (Fb vs Fg , understanding the buoyant force) |  |
|  | 3.14 Bernoulli’s principle – flight |  |
| **1 MC** | **Changes in matter – Chapter 4** |  |
| 4.0 Types of changes |  |
| 4.1 Physical change |  |
| 4.2 Chemical change |  |
| 4.3 Nuclear transformation |  |
| 4.4 Reactions (particle model) |  |
| 4.5 Oxidation |  |
| 4.6 Speed of oxidation |  |
| 4.7 Combustion (conditions for combustion to occur (fire triangle) & the different types) |  |
| **8 MC & 1 LA** | **Electricity & Magnetism – Chapter 5** |  |
| 5.1 Electrical charge (how do objects get charged, triboelectric series) |  |
| 5.2 Static Electricity (induction, conduction, friction) |  |
| 5.3 Dynamic Electricity |  |
| ~~5.4 Current Intensity I=q/∆t~~ |  |
| ~~5.5 Potential Difference V=E/q~~ |  |
| 5.6 Resistance |  |
| 5.7 Ohm’s law V = IR |  |
| 5.8 Circuits – draw series & parallel circuits (+ vs – end of battery) |  |
| 5.9 Placement of a voltmeter & ammeter |  |
| 5.10 Energy & Power – know how to do the calculations (P = IV & E = P∆t) |  |
| 5.11 P.A.R.V |  |
| 5.12 Magnetism – forces of attraction & repulsion, compasses |  |
| 5.13 How to magnetize on object |  |
| 5.14 Magnetic field & electric current |  |
| 5.15 Left-hand rule – know how to find the direction of the magnetic field if you know the current direction in a wire & in a solenoid |  |
| 5.16 Electromagnetic induction – use a magnetic field to make a current. |  |
| 5.17 Factors that affect the magnetic field on an electromagnet F = IN |  |
|  | Reading resistor bands was covered in ch 5 and ch 14 |  |
|  | **The Technological World – Chapter 12 & 14** |  |
| **1 LA** | **Manufacturing – Chapter 12** |  |
| 12.1 Constraints & deformations.  (Constraints = compression, tension, torsion, deflection, shearing)  (Deformation = elastic, plastic, fracture) P387 |  |
| **1 MC & 2 LA** | **Electrical Engineering – Chapter 14 (including drawing circuit diagrams)** |  |
| 14.1 Electronic vs electrical devices |  |
| 14.2 Electrical circuits – conventional current vs electron flow |  |
| 14.3 Power supplies(battery, electrical, photovoltaic) p463 |  |
| 14.4 Conduction, Insulation & protection (fuse & breakers) |  |
| 14.5 Electrical resistance (2nd time) |  |
| 14.6 Control (a.k.a. Switches p470) single-pole double-throw etc and matching diagram |  |
| 14.7 Transformation of energy – electric into light, heat, vibration, magnetism |  |
| 14.8 Components with other functions (capacitors, diodes, transistors & LEDs)  - how they work and how to draw them in a circuit. |  |

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| **Ch 3** | **Ch 4** | **Ch 5** | **Ch 14** | **Ch 12** |  |  | T 1 | T 2 | T 3 | June Exam | Overall |
| **37%** | **4%** | **42%** | **15%** | **6%** |  | Lab (C1) | 8% | 8% | 8% + 16% (lab exam) |  | 40% |
|  |  |  |  |  |  | Theory (C2) | 6% | 6% | 18% (~7% Jan ex + ~11% T3) | 30% | 60% |

There are 15 Multiple Choice (MC) questions for 4 marks each = 60

There are 7 Long Answer (LA) = 36

Total 96

***Please come in on Days 2 & 5 for lunch-time help***

***or email me at your convenience.***

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