Basic Electrical and Electronics

Maximum Marks: 100

Part-A
(Maximum Marks: 20)

I. Answer the following questions in one or two sentences.
1. State Ohm's law.
2. What is meant by capacitance?
3. What is a Transformer?
4. Give two names of commonly used semi conductors?
5. What is RMS value?
6. Write the colour code of 1K resistor.
7. What are the factors affecting the resistance of a conductor?
8. Practical or commercial unit of electrical energy.
10. What are the alloys of copper?

Part-B
(Marks: 80)
(Answer any five full questions)

II. a) State and explain Kirchhoff's law?

b) An electric iron is rated as 1kw, 250v. Calculate the current drawn by it, if it is connected to a 220v supply.

OR

III. a) Explain the working of a Lead acid battery.

b) Obtain the expression for resistors connected in parallel.
IV.  
   a) Draw the B-H curve of a soft magnetic material.  
   b) Obtain the expression for finding the effective capacitance when three capacitors 
      are connected in series.  

   OR  

V.   
   a) Write the relationship between voltage and current (Line and phase) in a 3 phase 
      star connected and delta connected system.  
   b) Define  
      i) Frequency  
      ii) Time period  
      iii) Amplitude  
      iv) form factor  

VI.  
   a) Compare the properties of copper and aluminium.  
   b) Explain the properties and uses of carbon.  

   OR  

VII. a) State Faraday's law of electromagnetic Induction.  
   b) Write any four properties and two uses of tungsten.  

VIII. a) Name the various parts of a de machine and give function of each part.  
      b) How the DC generators are classified according to their field connection? Explain 
         with figure?  

   OR  

IX.  
   a) Explain the working of a 3 phase Induction motor.  
   b) Explain the working principle of a DC motor.  

X.   
   a) Explain the working of a full wave rectifier.  
   b) Draw and explain the circuit diagram of a zener voltage regulator.  

   OR  

XI.  
   a) Explain the forward bias operation of a P-N junction diode.  
   b) Draw and explain the energy band diagram of conductors, semiconductors and 
      insulators.
നമസ്കാര

1.  സ്വദേശി (ജനനോദാകാലം)
2.  ആശയം ആളുക്കുമായി?
3.  ആശയം ഇസ്ലാമികയായി?
4.  ചില സമൂഹത്തിലെ സാംസ്കാരിക കാലാവധി മാനുവറിയാണെങ്കിൽ ഒരു കാലാവധി മാനുവറിയാണെങ്കിൽ ഉയരും?
5.  ആശയം കണക്കാക്കപ്പെടുന്നു, മറ്റുള്ള ആശയം കണക്കാക്കപ്പെടുന്നു, എങ്കിൽ?
6.  എന്നെ സ്വദേശി ആളുക്കുമായി കൈകാര്യം ചെയ്യുന്നു, എങ്കിൽ?
7.  എന്നെ മാനും സാമൂഹ്യ സാമൂഹ്യാതിതി സാമൂഹ്യ സാമൂഹ്യാതിതി മാനും?
8.  മാനും സാമൂഹ്യ സാമൂഹ്യാതിതി സാമൂഹ്യാതിതി ആശയം ആശയം എങ്കിൽ?
9.  ചില ആശയം ആശയം ആശയം ആശയം ആശയം ആശയം എങ്കിൽ?
10.  ഇപ്പോൾ ഇപ്പോൾ ഇപ്പോൾ ഇപ്പോൾ (10x2=20)

പ്രശ്നങ്ങൾ

1.  സ്വദേശി (ജനനോദാകാലം)
2.  സമൂഹത്തിലെ സാംസ്കാരിക കാലാവധി

േരിക്കുന്ന സ്വദേശി സാമൂഹ്യാതിതി

IID. (a) സ്വദേശി (ജനനോദാകാലം)
(b) ഇപ്പോൾ 220V വരണ്ട കദ്ദലാചാരാടി ഇപ്പോൾ 220V വരണ്ട കദ്ദലാചാരാടി

III. (a) ഇപ്പോൾ 220V വരണ്ട കദ്ദലാചാരാടി ഇപ്പോൾ 220V വരണ്ട കദ്ദലാചാരാടി
(b) വിശ്വസായിയായി ഒരു വിശ്വസായി ഒരു വിശ്വസായി ഒരു വിശ്വസായി

IV. (a) ഇപ്പോൾ ഒരു സ്വദേശി സാമൂഹ്യാതിതി
(b) ഇപ്പോൾ ഒരു സ്വദേശി സാമൂഹ്യാതിതി

V. (a) ഇപ്പോൾ ഒരു സ്വദേശി സാമൂഹ്യാതിതി
(b) ഇപ്പോൾ ഒരു സ്വദേശി സാമൂഹ്യാതിതി

1. ഒരു സ്വദേശി 2. ഒരു സാമൂഹ്യ 3. ഒരു സാമൂഹ്യ 4. ഒരു സാമൂഹ്യ
VI. (a) ការហៅឡើងវិញ ។ ការសរសេរអំពីរឿងផ្សេងៗ ។ ប្រសិនបើ ការបញ្ចូលសម្រាប់ការ។

(b) ការអនុវត្តន៍ ការប្រើប្រាស់ ការបញ្ចូលសម្រាប់ការដំណើរការ។

VII. (a) ប្រភេទប្រឹក្សារយុទ្ធសាន់ ស្រុកនៅ ទីក្រុង សំបុត្រនៅ អាហារ ។

(b) ស្រុកស្រីរាជ ស្រុកស្រីរាជ ទីក្រុង សំបុត្រនៅ អាហារ ។

VIII. (a) មាន ការបញ្ជាក់ អំពីការព្រមាន់ ការបញ្ជាក់ អំពីអាហារ ស្ពាន់ ។

(b) មាន ការបញ្ជាក់ អំពីការព្រមាន់ អំពីការ ស្ពាន់ អាហារ ស្ពាន់ ។

IX. (a) មាន ការព្រមាន់ អំពីការព្រមាន់ អំពីការ ស្ពាន់ អាហារ ។

(b) មាន ការព្រមាន់ អំពីការព្រមាន់ អំពីការ ស្ពាន់ អាហារ ។

X. (a) មាន ការព្រមាន់ អំពីការព្រមាន់ អំពីការ ស្ពាន់ អាហារ ។

(b) មាន ការព្រមាន់ អំពីការព្រមាន់ អំពីការ ស្ពាន់ អាហារ ។

XI. (a) មាន P-N ការបញ្ជាក់ អំពីការព្រមាន់ អំពីការ តាមតាម អាហារ ។

(b) ការព្រមាន់ ការព្រមាន់ ការព្រមាន់ តាមតាម អាហារ ។