# ENGR 131 TEST 1 SPRING 2022

**NAME:**

Read the following questions carefully and Circle the best possible answer (1 Point each)

1. World’s first engineering works were constructed by
2. Egyptians b) Greeks c) Mesopotamians d) Romans
3. The great king who ruled Babylonia for 43 years and compiled comprehensive construction codes that bears his name:

a) Hammurabi b) Sakkara c) Cladius d) Maximus

1. The wheeled cart is said to have first appeared in this area

a) Egypt b) Athens c) Mesopotamia d) Portales

1. These people are best remembered for their abstract logic and ability to theorize the knowledge of the past

a) Romans b) Italians c) Egyptians d) Greeks

1. Were practical builder who relied more on experience than on mathematical logic

a) Egyptians b) Mesopotamians c) Greeks d) Romans

1. The best-known work of the………..builders are the Pyramids

a) Roman b) Greek c) Egyptian d) Italian

1. A great artist, architect, and experimental scientist of the Italians Renaissance; he is remembered for his conceptual design than practical engineering work

a) James Watt b) Edison c) Volta d) Da Vinci

1. These inventors flew their airplane on a journey that lasted 12 seconds and covered a distance of 120 feet

a) Edison & Tesla b) Boyle & Hook c) Wright brothers d) Da Vinci & Copernicus

1. The title engineer first came into use during this period

a) Middle Ages b)Ninteen Century c) Twentieth Century d) Early Civilization

1. These ancient engineers practiced the earliest known form of surveying, developed effective irrigation systems, and build the tallest structures

a) Romans b) Egyptians c) Greeks d) Italians

1. An Italian astronomer and physicist who made the first practical use of telescope to study astronomy

a) Newton b) Copernicus c) Boyle d) Galileo

1. An English scientist and mathematician who invented calculus and formulated the law of universal gravitations

a) Da Vinci b) Hooke c) Newton d) Newcomens

1. He secured patents for an induction motor and for a new polyphase alternating current

a)Edison b) Volta c)Tesla d)Faraday

1. He invented the incandescent light bulb and discovered that lamps can be connected in parallel.

a) Westinghouse b) Edison c) Davy d) Faraday

1. Since the invention of this device in 1947 semiconductor devices have in large measure replaced vacuum tubes as amplifying devices for electronic signals

a) Transistor b) printer c) Resistor d) Computer

1. Many of the improved engineering devices in the Middle ages including the invention of gunpowder and the development of processes for the making of paper were appeared in
2. Germany b) Egypt c) Ireland d)China
   1. He invented the movable type mold (Modern printing device) and was credited with the printing of the first book about 1450.

a) Boyle b) Watt c) Gutenberg d) Volta

* 1. The first commercially successful river paddle steamship appeared in America by

1. Georg Stephenson b) Robert Fulton’s Clermont c) James Watt d) John Macadam
   1. Communication by the telegraph was invented by
2. Edison b)John Macadam c) Telford d) Morse
   1. During the 1750-1900 periods, this famous road builder from Scotland developed a method of road construction by compacting layers of broken stones.
3. John Macadam b) Thomas Telford c)Tesla d)George Stephenson
   1. The first commercially successful river paddle steamship in America was made by

a)Robert Fulton’s Clermont b)George Stephenson c) Morse d)George Simon

* 1. (5 points each)

Three branches of engineering are listed below. Describe each one briefly and provide two examples of a significant specialized practice area from each branch.

1. Electrical
2. Mechanical
3. Industrial
4. (5 P) Name at least three of the five oldest and largest professional engineering organizations “Founder societies.”
5. (5 P) Explain briefly the services that are provided by the professional engineering organizations to their members.
6. (4 P each)

Specify the result with correct number of significant digits:

(a) 62.9671 x 722.1 x (2.5 x 10-1) x 0.05=

(b) 0.03744+516.15+64.042+1.56=

(c) 

1. (2 P each)

Round off the following results to the number of significant figures specified using scientific notation.

Given Number number of significant figures Your Answer

a) 659.6675 5 a)

b) 0.07815 1 b)

c) 266.9930401 6 c)

d) 51482 3 d)

e) 78000 4 e)

f) 50.218 2 f)

g) 673012 5 g)

h) 1.3921 3 h)

I) 379.834 3 i)

j) 800.001433 6 j)

1. (12 P)

In the data set below, each measurement was taken of the same dimension.

1. Determine the mean, median, mode, and standard deviation of the set of data (you may use MATLAB software)

6.23 MEAN MEDIAN MODE STD

6.27

6.35

6.22

6.21

6.25

6.27

6.24

6.28

6.24

6.20

1. (10 points) Use a 99% confidence interval to determine the validity of the the7.22 measurement, which appears to be in error (you may use MATLAB software for your computations). Show all your work

7.22

7.27

7.36

7.23

7.21

7.25

7.26

7.24

7.28

7.24

7.20