

**SCHOOL OF AUTOMOTIVE SKILLS**  
**FIRST IN-SEMESTER EXAMINATION – 2017**  
**B.VOC. COURSE**

**Course Code: AUT1001**

**Course name: Mechanical Shop**

**Instructions: Attempt all questions.**

**Time: 1 Hour**

**Max. Marks: 20**

**Section (A)**

**5X1=5 Marks**

**Directions: Select any one correct answer from the given options:**

Q1. When volume inside the cylinder decreases, pressure...

- a. Increases
- b. Decreases
- c. Constant
- d. None of these

Q2. Full form of EGR is ...

- a. Exit gas recycling
- b. Exhaust gas recirculation
- c. Exhaust gas reducer
- d. Exit gasoline recycle

Q3. Bore is defined as...

- a. Distance between TDC & BDC
- b. Diameter of the cylinder
- c. Volume of the cylinder
- d. None of these

Q4. Full form of PCV is...

- a. Positive crankcase ventilation valve
- b. Pre circulation valve
- c. Positive circulation valve
- d. Piston cylinder valve

Q5. The chemical formula of carbon dioxide...

- a. CO
- b. CO<sub>2</sub>
- c. C<sub>2</sub>O
- d. (CO)<sub>2</sub>

**Section (B)**

**3X2=6 Marks**

Q6. Write down the different types of gears and their uses.

Q7. Write four differences between four stroke & two stroke engine.

Q8. Draw the schematic PV diagram of Otto cycle and mention the process occurring during the cycle.

**Section (C)**

**3X3=9 Marks**

Q9. Write down the steps involved in the process of Engine Oil Changing during general service.

Q10. Differentiate between single plate clutch & Multiplate clutch.

Q11. Explain the working of four stroke engine with a diagram.

**SCHOOL OF AUTOMOTIVE SCHOOL  
FIRST IN-SEMESTER EXAMINATION – 2017  
SUMMER SEMESTER, B. VOC. PROGRAM**

**Course Code: AUT1002  
Course Name: Wheel Care**

**Time: 1 Hour  
Max. Marks: 20**

**Instructions: Attempt all questions**

**Section-A**

**Directions: Select any one correct answer from the given options:**

**(5x1) =05 Marks**

**Q 1. Purpose of the wheel axle in a vehicle is:**

- A) To cool the engine
- B) To give power on fly wheel
- C) To give structural support to wheel
- D) For air inlet

**Q 2. Function of tread in a tyre is:**

- A) To give better look
- B) To Provide friction
- C) To give structural support
- D) To improve strength

**Q 3. Where is bead located in the tyre:**

- A) At Surface
- B) On edges
- C) On side walls
- D) Inner side

**Q 4. Material of the car wheel is:**

- A) Plastic
- B) Pressed steel disk
- C) Wood
- D) Copper

Q 5. The popular type of tyre in modern vehicle is:

- A) Tube type
- B) Tube less
- C) Solid iron
- D) Wood wheel

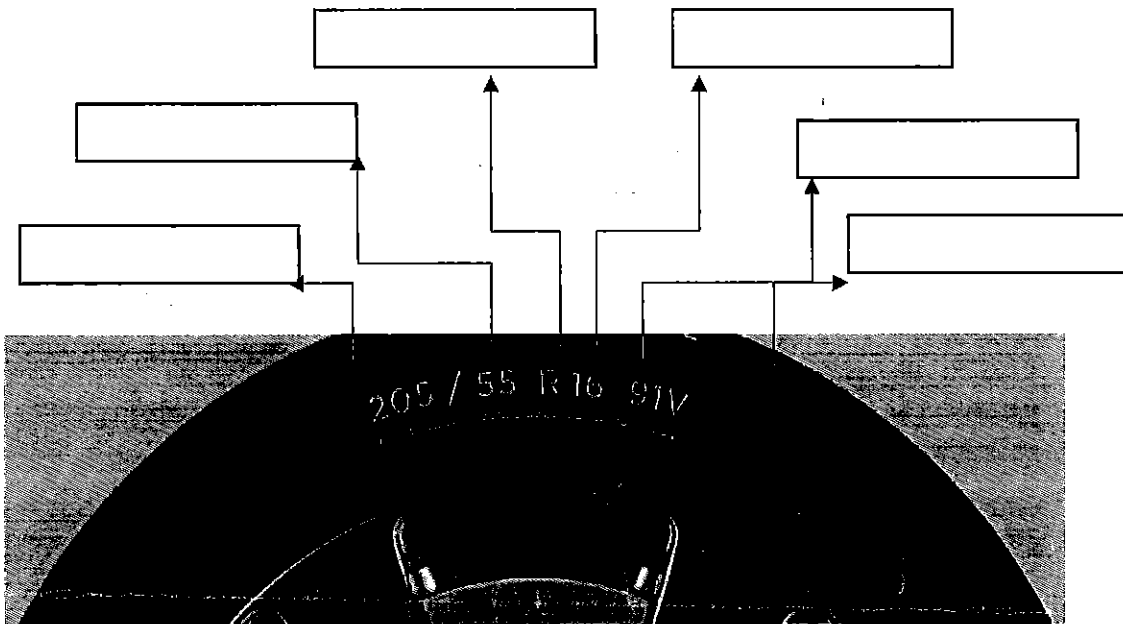
**Section-B**

**(3x2)=06 Marks**

Q 6. Write the name of tyres based on applications.

Q 7. Write down the advantages of Run-flat tyre.

Q 8. Identify the tyre nomenclature in the figure given below:



**Section-C**

**(3x3)=09 Marks**

Q 9. Explain the working principle of hydraulic braking system.

Q 10. Write the different types of tyre based on session and explain one of them.

Q 11. Explain braking system and its requirement in an automobile.

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FIRST IN-SEMESTER EXAMINATION – 2017  
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**Course Code: AUT1003**

**Course Name: BODY SHOP**

**Instructions: Attempt all questions.**

**Time: 1 Hour**

**Max. Marks: 20**

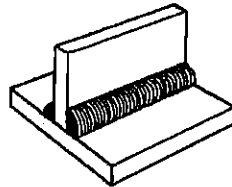
**Section-A**

**Directions: Select any one correct answer from the given options:**

**(5x1=05) Marks**

1.) The diagram given below shows.....Joint.

- a) Butt Joint
- b) I-Joint
- c) Corner Joint
- d) T-Joint



2.) Which of the following is Destructive Type of testing method?

- a) Visual Inspection
- b) Tensile Testing
- c) X-ray Testing
- d) Fold Testing

3.) .....is the example of an Inert gas.

- a) Carbon dioxide
- b) Hydrogen
- c) Helium
- d) Argon

4.) MIG Welding is always performed on Alternating Current.

- a) True
- b) False.
- c) Both (a) & (b)
- d) None of the above

5.) Heat Generation in welding can be expressed as.....

- a)  $Q = I^2 R T$
- b)  $Q = IR^2 T$
- c)  $Q = IRT^2$
- d)  $Q = I^2 RT^2$

**Section-B**

**(3x2=06) Marks**

- 6.) Define welding.
- 7.) Draw the diagrams of any four weld seam symbols.
- 8.) What are the safety equipment used in welding?

**Section-C**

**(3x3=09) Marks**

- 9.) Explain the weld seam inspection procedures.
- 10.) Discuss the process of MIG\MAG welding.
- 11.) Explain the process of TIG Welding.

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**Course Code: AUT1004**

**Time: 1 Hour**

**Course Name: PAINT SHOP**

**Max. Marks: 20**

**Instructions: Attempt all questions.**

**Section-A**

**Direction : Select the one correct option from the given options in the following questions :-**

**5x1=5 Marks**

**Q-1. The substance used for quick drying of putty is...**

- a. Spray Gun
- b. Hardener
- c. Thinner
- d. None of these

**Q-2. The equipment used to spray the paint is...**

- a. Spray Gun
- b. Dry sander
- c. Sand Blocks
- d. All of the above

**Q-3. The equipment used to purify the breathing air in paint booth is...**

- a. Mask and respirator
- b. Dry Sander
- c. Hand gloves
- d. All of the above

**Q-4. The equipment used to remove the extra putty from the surface during surface preparation Process is...**

- a. Putty Spreader Sheet
- b. Dry Sander
- c. Spray gun
- d. Plier

Q-5. The equipment used to spread the putty on the surface during surface preparation is...

- a. Sand blocks
- b. Dent puller
- c. Putty spreader sheets
- d. None of these

**Section-B**

**3x2=6 Marks**

Q-6. What is meant by paint primer? Why do we use paint primer?

Q-7. Write any four name of tools which are used in paint shop.

Q-8. List the steps involved in pre-painting procedure.

**Section-C**

**3x3=9 Marks**

Q-9. Explain operating procedure of paint booth.

Q-10. Discuss types of dent. Write steps of denting process.

Q-11. Describe different types of paint. Write the steps involved in solid painting.

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**Course Code: AUT1004**

**Time: 1 Hour**

**Course Name: AUTOMOTIVE SPRAY PAINTING**

**Max. Marks: 20**

**Instructions: Attempt all questions.**

**Section-A**

**Direction : Select the one correct option from the given options in the following questions :-**

**5x1=5 Marks**

**Q-1. Which substance acts as a bonding agent?**

- a. Putty
- b. Primer
- c. Hardener
- d. None of these

**Q-2. Which place is used to mix the paint?**

- a. Inside Paint booth
- b. Paint mixing room
- c. Outside paint booth
- d. None of the above

**Q-3. Which place is used for final painting?**

- a. Paint booth
- b. Sanding room
- c. Paint mixing room
- d. None of the above

**Q-4. Sanding process is required to...**

- a. Even the surface
- b. Fill the holes
- c. Both (a) and (b)
- d. None of the above

Q-5. The substance used as a undercoat during painting is...

- a. Primer
- b. Putty
- c. Thinner
- d. None of these

**Section-B**

**3x2=6  
Marks**

Q-6. Write down the different functions of sanding?

Q-7. What is putty and write its different types?

Q-8. What are the responsibilities of a paint shop technician?

**Section-C**

**3x3=9 Marks**

Q-9. What is primer? Explain different properties of primer.

Q-10. What is dry sander? Explain different components of pneumatic dry sander.

Q-11. What is sanding? Explain types of sanding.

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FIRST IN-SEMESTER EXAMINATION – 2017  
SUMMER SEMESTER, B. VOC. PROGRAM**

**Course Code: Aut1005**

**Time: 1 Hour**

**Course Name: Automotive Electrical, Electronics & Comfort system**

**Max. Marks: 20**

**Instructions: Attempt all questions.**

**Section-A**

**5x1=05 Marks**

1. Heating and cooling coil fins are made up of:
  - a) Aluminium
  - b) Copper
  - c) Brass
  - d) All of the above
2. Compression in an AC system results in:
  - a) High temperature liquid refrigerant
  - b) High pressure gas refrigerant
  - c) High temperature & high pressure liquid refrigerant
  - d) High temperature & high pressure gas refrigerant
3. Where does a refrigerant change its phase in an AC system?
  - a) In compressor
  - b) In condenser only
  - c) In evaporator only
  - d) In both evaporator and condenser
4. Which of the following is present in IDU?
  - a) Compressor
  - b) Condenser
  - c) Evaporator
  - d) Electronic expansion valve
5. Where is the evaporator located in an AC cycle?
  - a) Before expansion device
  - b) After compressor
  - c) After expansion device
  - d) Before condenser

**Section-B**

**3x2=06 Marks**

1. Define the following terms:
  - (i) Sensible heat
  - (ii) Latent heat
2. Derive a relation between Tonne of Refrigeration and kW.
3. Write short notes on compression and evaporation processes.

**Section-C**

**3x3=09 Marks**

1. Describe the classification of compressor on the basis of compression method and explain any one of the compressors in detail.
2. Explain the Vapour Compression Refrigeration System cycle with the help of a diagram.
3. Differentiate between refrigeration and Air-conditioning.

Registration No.....

**SCHOOL OF AUTOMOTIVE SKILLS**  
**FIRST IN-SEMESTER EXAMINATION – 2017**  
**B.VOC. COURSE**

**Course Code: AUT1006**

**Time: 1 Hour**

**Course name: Tools & Equipment Maintenance**

**Max. Marks: 20**

**Instructions: Attempt all questions.**

**Section-A**

**Direction: Select anyone correct answer from the given options:**

**5 X 1 = 5 Marks**

1. (a) The function of the lower jaws of Vernier caliper is to measure the ..... diameter of an object such as a tube, sphere or cylinder. (inner/outer).  
(b) The function of the upper jaws of Vernier caliper is to measure the..... diameter of an object such as a tube, pipe or hollow cylinder. (inner/outer).
2. (a) The minimum measurement that can be taken by an instrument is known as:  
i. Least count      ii. High count      iii. Low count      iv. Maximum count  
(b) Least count of a micrometer is:  
i. 0.002      ii. 0.001      iii. 0.01      iv. 0.02
3. (a) Smooth File is used for:  
i. Cutting      ii. Finishing      iii. Metal removal      iv. Honing  
(b) Rough File is used for:  
i. Finishing      ii. Metal removal      iii. Honing      iv. Cutting
4. (a) In automotive workshop the equipment used for raising the vehicle from ground level to a certain height for engine servicing is known as:  
i. Two post lift      ii. Wheel Aligner      iii. Wheel Balancer      iv. Hydraulic Jack  
(b) The equipment used for balancing of wheels is called:  
i. Wheel Aligner      ii. Wheel Balancer      iii. Tyre Balancer      iv. Tyre Changer
5. (a) Material used to make the file is:  
i. Cast iron      ii. Stainless steel      iii. Mild steel      iv. Carbon Steel

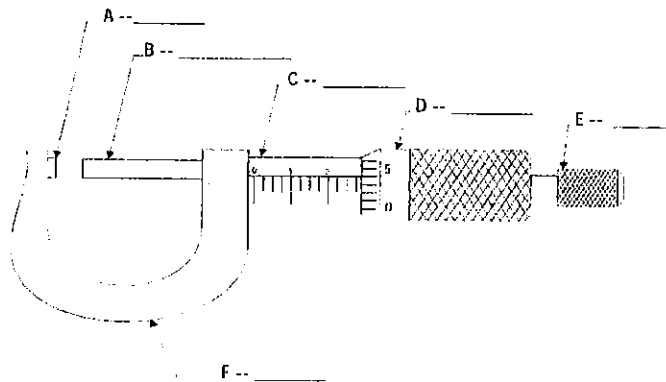
(b) Drilling process is done to:

- i. Enlarge a hole
- ii. Make a hole
- iii. Make a groove
- iv. Surface finishing

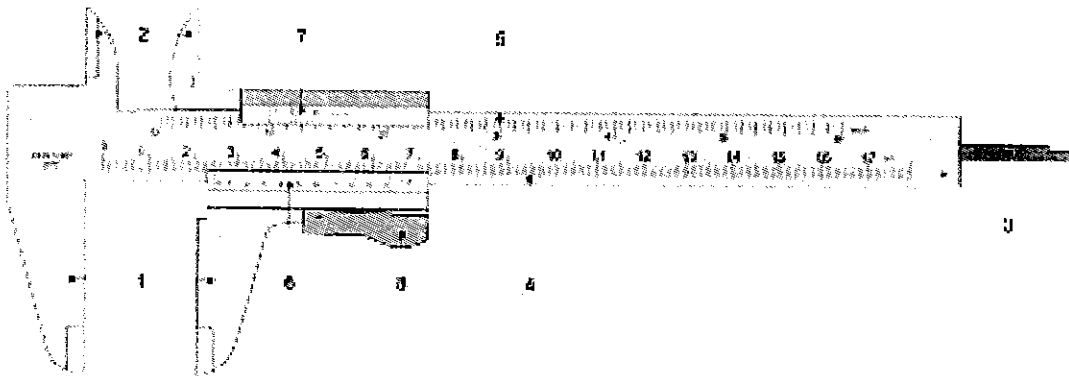
**Section-B**

**3 X 2= 6 Marks**

- 6. What is meant by least count? Calculate the least count of a Vernier Caliper.
- 7. Label the parts of the figure given below.



- 8. Label the parts of the figure given below.



**Section-C**

**3 X 3= 9 Marks**

- 9. What is meant by calibration and why is it required?
- 10. Explain the steps involved in using a Vernier caliper while measurement.
- 11. List the types of files used in hand-skills. Draw the diagram of any three types files.

Registration No.....

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**FIRST IN-SEMESTER EXAMINATION – 2017**

**B.VOC. COURSE**

**Course Code: AUT1006**

**Time: 1 Hour**

**Course name: Automotive Workshop Maintenance & Documentation**

**(Tools & Equipment Maintenance)**

**Max. Marks: 20**

**Instructions: Attempt all questions.**

**Section-A**

**Five questions of one mark each**

1. (a) The cold chisel is a hand cutting tool used by fitters for.....(chipping/filing).  
(b) ..... (Cross-Cut/Flat) chisels are used to remove metal from large surfaces.
2. (a) The angle between top face of cutting point and normal to work surface at cutting edge is known as ..... (Clearance/Rake) angle.  
(b) The major parts of a hammer are a ..... (Face/Head) and a handle.
3. (a) An engineer's hammer is specified by their ..... (Length/Weight) and shape of the peen.  
(b) Standard wooden mallets are used for general purpose work like .....(Stretching/Flattening).
4. (a) Hexagon socket screw keys are made from hexagonal section bars of .....  
(Aluminium alloy/Chrome Vanadium steel).  
(b) Spanners are used for operating.....(Threaded fasteners/Nails)
5. (a) Stillson pipe wrenches are used for gripping and turning of .....(pipes/bolts)  
(b) The four flats of Phillip's screw driver is tapered to an angle of .....(43/53) degree.

**Section-B**

**Three questions of two mark each**

6. Name the different types of chisels. Draw the diagram of a flat chisel with labelling of all it's parts.
7. Write down the names of all six general workshop operations for which a hammer is used.
8. List out the features of a standard screw driver with the help of a diagram.

**Section-C**

**Three questions of three mark each**

9. Write short notes on Spanners and their uses.
10. Draw a schematic diagram and write short notes on wheel base and wheel track.
11. List out six major equipments of an automotive workshop and mention the applications of each.