TWO AND THREE WHEELERS – QUESTION BANK

UNIT I: POWER PLANT

Two mark question:

- What do you mean by scavenging? Why it is necessary?
- What are the types of scavenging pumps?
- What is scavenging pump?
- Draw symmetrical and unsymmetrical port timing diagram? (Dec’2008)
- Mention the demerits of four stroke SI Engine?
- Mention the merits of two stroke SI Engine? (May 2006)
- Mention the demerits of two stroke SI Engine?
- What is the use of reed valve in a two stroke petrol engine? (Dec’ 2007)
- Give details of lubrication system used in two wheeler? (Dec’2008)
- What is scavenging efficiency?
- Write the disadvantages of carburetor?
- Mention the advantages of Electronic ignition system? (May 2012)
- Write about the kick starter mechanism?
- Write the constructional and functional difference between two stroke and four stroke SI engine? (May 2012)

16 – Mark question:

- With the aid of neat sketches explain the constructional details of a single cylinder two stroke petrol engine used for a motor cycle? (May 2006) (Dec’ 2007)
- Explain briefly about the construction and working principle of four stroke engine? (May 2012)
- Explain briefly about the Battery and coil ignition system
- Explain in detail about magneto coil ignition system with neat sketch. (May 2012) (May 2006)
- Describe the working of CV carburetor used for a two wheeler with particular reference to the choke circuit, main circuit and acceleration circuit. (Dec’ 2007) (May 2006)
- Explain briefly about the construction and working principle of kick starter mechanism?
- Explain briefly about the construction and working principle of lubrication system used in two wheeler?
- Explain briefly about the types of scavenging pumps?
- Sketch and explain the working of rotary valve engine used in two and three
wheeler. (Dec’2008)

- Sketch and explain the scavenging processes used in two wheeler engine. (Dec’2008)
- Explain the following i. Capacitive Discharge Ignition ii. Transisterised Assisted Ignition system.

UNIT II CHASSIS AND SUB SYSTEMS:

Two mark question:

- Write the purpose of having frame in a vehicle Or Functions of frame?
- Write about the types of frame?
- What are the different types of primary drives used in two wheelers? (May 2006) (Dec 2007)
- Why centrifugal clutch is used in mopeds? (May 2006)
- Write about the advantages of multiplate clutch?
- Write about the disadvantages of multiplate clutch?
- Write the drawbacks of centrifugal clutch? (May 2012)

- Write the advantages of centrifugal clutch?
- What is the purpose of having gear box in a vehicle?
- Sketch and List out various panel meters used in the handle bar?
- List out various controls used in the handle bar? (Dec 2007)
- List out the differences in front and rear suspension systems used in two wheeler? (Dec’2008)
- List the advantages of shaft drive. (May 2012)
- Sketch the various panel meters used in the two wheeler handle bar? (Dec’2008)
- What is swing arm?

16 – Mark question:

- With the aid of neat sketches explain different types of frames used in two wheelers. (May 2006)
- Explain briefly about the construction and working principle of single plate clutch?
- Sketch the exploded view of a multiplate wet clutch used in a scooter and explain its working. (May 2006)
• Explain briefly about the construction and working principle of centrifugal type clutch?
• Draw cut sectional view of a gear box used in two wheelers and its working in detail. (Dec’2008)
• Explain briefly about the working principle of Telescopic shock absorber?
• Explain briefly about the front and rear suspension system used in a two wheeler?
• Explain briefly about the various panel meters and controls used in a handle bar?
• Explain a typical view swinging arm type rear suspension of a motor cycle and explain how the suspension spring rate may be varied in this vehicle? (May 2006)
• Draw the exploded view of the clutch assembly of a typeical motor cycle and explain its construction and working. (Dec 2007)

UNIT III: BRAKES WHEELS AND TYRES

Two mark question:
• Why the braking system need in a two wheeler?
• What is leading shoe / trailing shoe?
• Write the advantages of disc brake? (Dec’2008) (May 2012)
• Write the disadvantages of drum brake?
• Write about the purpose of having wheels in two wheeler?
• Why wire spoked wheels are preferred in motor cycles? (May 2006)
• Sketch the cross section of a typical two wheeler tyre and name its important parts? (May 2006)
• Write the advantages of cast wheel?
• Write the disadvantages of cast wheel?
• Write the disadvantages of disc wheel?
• Write the disadvantages of spoked wheel? (May 2012)
• Write the function of tyres?
• Write the advantages of tubeless tyre?
• What is ply rating?
• Give reasons why the disc brakes are preferred for front wheels. (Dec’2008) (Dec 2007)

16 - mark question:
• Explain the working of drum brake in two wheelers. (Dec’2008) (Dec 2007)
• Compare tube and tubeless tyre.
• Write are the various maintenance and brake adjustment. (Dec’2008)
• Write about the properties of braking lining material. (Dec’2008)
• How the slackness of the chain drive of a motor cycle is adjusted? Explain. (Dec 2007)
• With sketches explain a typical hydraulically operated disc brake used in Bajaj Pulsar motor cycle. (Dec 2007)
• Explain the following with neat sketch. i. Master cylinder ii. Tandem master cylinder iii. Wheel cylinder.
• With the aid of simplified sketches, discuss in detail about radial and bias ply tyres.
• Explain in detail about construction of different types of wheels with neat sketch.
• Explain in neat sketch about the construction of tyre.
• Explain briefly about the front and rear brake link layout?

**Unit IV: TWO WHEELERS**

**Two mark question:**

• Name any five motor cycle manufactures and three moped manufactures in India. (May 2006)
• Differentiate scooters and scooties. (May 2006)
• Compare the constructional differences of scooters and mopeds. (Dec’2008)
• Compare the transmission system of motorbike and scooter.
• List the difference between scooter and moped. (May 2012)
• What do you understand by DTS-i? (May 2012)
• Name the major two wheeler manufactures in India. (Dec 2007)
• Why mopeds are using centrifugal clutches? (Dec 2007)
• Mention the recommended tyre pressure for two wheeler.
• What do you mean by ABS?

**16 – mark question:**

• With the aid of sketches explain a continuously variable transmission (gearless
transmission) used in two wheelers. (May 2006)

- With help of suitable sketches bring out all the operational differences between Enfield and Yamaha motorcycles. (Dec’2008)
- Compare with respect to service and maintenance point of view the Hero Honda and Bajaj motor cycles. (Dec’2008)
- With help of suitable sketches explain the operational techniques of any one company moped.
- With help of suitable sketches explain the operational techniques of any one company scooter.
- Compare the performance characteristics of any four scooters of same category by different manufacturers. (May 2012)
- Discuss in detail about performance characteristics of any four motorcycle of same category by different manufacturers. (May 2012)
- Discuss in detail about performance characteristics of any four moped of same category by different manufacturers. (May 2012)
- Explain the salient features of a TVS champ moped. (Dec 2007)
- With the aid of sketches explain the constructional details of the engine and transmission unit of a Bajaj Scooter. (Dec 2007)
- With the aid of sketches explain a Anti-lock braking system used in two wheelers.

UNIT V: THREE WHEELERS

Two mark question:

- Classify three wheelers according to their construction and usage. (May 2006)
- How operation wise a three wheeler differs from a two wheeler. (Dec’2008)
- Name the rear suspension for a normal three wheelers and briefly explain it. (May 2006)
- Bring out the difference between pickup van and auto rickshaw with respect to usage. (Dec’2008)
- Compare TVS auto rickshaws and Bajaj auto rickshaw with respect to construction. (May 2012)
- What are the advantages of TATA ACE over Ashok Leyland pick up van? (May 2012)
- Name the type of suspension used for the front and rear of a Bajaj RE three
wheeler. (Dec 2007)

- Mention the recommended tyre pressure for three wheeler?
- Name any three auto rickshaw, Pickup van, Delivery van manufacturers.
- What do you mean by trailer?
- Mention the advantages of delivery van over pick up van.
- What are the advantages of Pick up van?

16 – mark question:

- Explain the rear suspension system and braking system used in three wheeler with neat sketch. (May 2006)
- Draw neat sketch and explain the working of gear changing and steering mechanisms in Auto-rickshaw. (Dec’2008)
- Explain the constructional details, fabrication technique of various parts and plates of pick up vans. (Dec’2008)
- Prepare trouble shooting chart to trace out the problems of auto rickshaws. (May 2012)
- Prepare trouble shooting chart to trace out the problems of Pickup van and delivery van. (May 2012)
- Sketch the power unit and transmission system of a Bajaj rear engine Auto rickshaw and explain its working. (Dec 2007)
- Write notes on the following. (i) Transmission of front engines auto rickshaw (ii) Three wheeler with trailer. (iii) Diesel engine three wheeler. (iv) Trailing arm suspension for three wheeler. (Dec 2007)
- Compare any two recent pickup vans of your own choice. With the aid of simplified sketch, compare technically and discuss their unique feature.
- Describe the maintenance schedule of three wheeler
- Draw the layout of three wheeler and mark its parts along with their functions.