Typical Rocketry Exam Questions

Who discovered that the accuracy of early rockets could be improved by spinning them?

The Chinese  
William Hale  
Sir Isaac newton  
Sir William Congreve

Who built and launched the first liquid fuelled rocket?

Robert Esnault-Pelterie  
Robert Goddard  
Konstatine Tsiolkovsky  
Wernher von Braun

An object carried by a rocket for military purposes is called:

The payload  
The warhead  
The motor  
The guidance system

An ABM is a missile for attacking:

Bunkers  
Missiles  
Ships  
Tanks

Kerosene rocket fuel is pumped round the exhaust nozzles of the engine to?

Cool the fuel and heat the nozzle  
Heat the fuel and the nozzle  
Cool the nozzle  
Cool the nozzle and the fuel

On the following diagram of a solid-fuel rocket which arrow represents the igniter?

B  
C  
A  
D

Which of the following components is not found in a liquid propellant engine?

Turbine  
Propellant grain  
Pumps  
Injectors
On the diagram of a solid-fuel rocket what is indicated by arrow B?

- Nozzle
- Igniter
- Hydrogen cooler
- Motor case

Which of the following sentences describes a hybrid motor?

- A hybrid motor uses a solid oxidiser and a liquid propellant
- A hybrid motor uses two chemicals which spontaneously react
- A hybrid motor uses pressurised gaseous propellant and oxidiser
- **A hybrid motor uses a pressurised oxidiser in liquid or gaseous form and a solid propellant**

A blowdown system works by:

- Using gaseous propellant to force the oxidiser out of the tanks
- Using gaseous oxidiser to force the propellant out of the tanks
- Using pressurised inert gas to force the propellant out of the tanks
- **Using pressurised inert gas to force the oxidiser out of the tanks**

Which of the following is NOT a type of chemical rocket motor?

- Cold gas motor
- **Ion thrusters**
- Monopropellant engine
- Solid propellant motor

What is the main advantage of multi-staging a launch vehicle?

- It uses more efficient engines
- **It produces a higher final velocity**
- It allows more fuel to be carried
- It increases the mass ratio

Which one of the following is a standard form of rocket staging?

- Inline
- V
- **Serial**
- Flat

The thrust to weight ratio of a launch vehicle is normally in the range:

- 0.6 to 1.0
- 1.0 to 1.2
- **1.2 to 1.6**
- 1.6 to 2.0
The point in a flight at which the forces trying to crush a rocket are at their greatest is called:

- Lift Off
- Max Q
- Ignition
- Burn Out

What is the velocity of a satellite at apogee in GTO?

- 1.6 km/s
- 6.1 km/s
- 9.5 km/s
- 10.3 km/s

Final acceleration into Geo-Stationary Orbit is performed by:

- Lift Off
- Orbital Drift
- Burning the apogee boost motor
- Jettison Fairing

The specialist body for model rocketry is called?

- NASA
- BP
- APCP
- UKRA

What is the role of the RSO in model rocketry?

- To design rockets so they'll fly safely
- To prepare rockets for launch
- To select the correct motor for flight
- To supervise every launch so that it can proceed safely

In a multi-stage rocket, which stage does the largest portion of the lifting work?

- First
- Second
- Third
- Second and Third

In an Ariane 5 launch vehicle how many stages does it have?

- 1
- 2
- 3
- 4

Which part of a model rocket is used to hold it onto the launch rod?

- Motor hook
- Fins
- Launch lug
- Shock cord
What does the delay grain do in a model rocket motor?

- Delays ejection of the nose cone and deploys the parachute while providing tracking smoke
- Delays firing of the rocket motor
- Provides thrust and tracking smoke
- Electrically ignites the propellant

The first nuclear thermal engine was called:

- NEVA
- NOVA
- **NERVA**
- NEVAR

The maximum range of a V2 Rocket was:

- 100 miles
- **200 miles**
- 300 miles
- 400 miles

The Skylon space plane is being designed in which country?

- Russia
- Germany
- America
- **Great Britain**

The main disadvantage of monopropellant and bipropellant engine is?

- They are very inefficient compared to solid rocket motors
- **The chemicals are dangerous to transport and store**
- The motors are very heavy relative to the thrust they produce
- The engines are very complex to build

In a rocket engine what does the term Specific Impulse quantify?

- Acceleration
- Energy
- Power
- **Efficiency**

The three main forces which act on a rocket are:

- **Thrust, weight and drag**
- Weight, drag and exhaust
- Drag, exhaust and thrust
- Exhaust, thrust and weight

If a launch vehicle has staging strapped alongside each other and fired simultaneously what type of staging is this?

- Serial
- **Parallel**
- Flat
- Inline
Film cooling works by:
Passing propellant around the bell to cool the metal
Spraying the propellant and LOX into the combustion chamber
Increasing the pressure of the propellant and LOX
Injecting a thin layer of turbine exhaust gases into the bell

The five phases of model rocket flight are called:
Boost, Climb, Ejection, Descent, Landing
Boost, Coast, Ejection, Descent, Landing
Blast-off, Climb, Ejection, Descent, Landing
Blast-off, Coast, Ejection, Deployment, Landing

In a multi stage rocket, the first stage does what portion of the lifting work?
Smallest
Largest
Medium
Tiny

Who developed the H-2 launch vehicle?
China
Japan
Russia
America

The first rocket to be used as a long range weapons was
The H-2
The R-7 Rocket
The Saturn V
The V2 rocket

The burning surface area of a neutral burn motor:
Has no effect on the thrust profile of the motor
Reduces throughout the burn
Increases throughout the burn
Stays constant throughout the burn

On the diagram of a solid fuel rocket what is indicated by arrow C?

Nozzle
Motor case
Igniter
Liquid propellant charge
Which of the following does NOT affect the efficiency of a liquid propellant engine:

- How well the propellant and LOX are mixed
- The choice of propellant
- The temperature of combustion
- **The cooling systems**

The problem of lifting large rockets and their payloads into space is overcome by the use of:

- Thruster nozzles
- Liquid Oxygen Fuels
- Re-usable Vehicles
- **Multi-stage Rockets**

A rocket motor designated C6-5 has an average thrust of:

- **6 Newtons**
- 5 Newtons
- 6 Newton-seconds
- 5 Newton-seconds

Who led the team which developed the V2 rocket?

- Wernher von Braun
- Robert Goddard
- Robert Esnault-Pelterie
- Herman Oberth

Which of the following is NOT a manned space station?

- Salyut
- Atlas
- Skylab
- **Mir**

Additional rockets fixed to the outside of the first-stage of a multiple-stage rocket are called:

- Boosters
- Roosters
- External Tanks
- **Orbiters**

Which type of rocket motor uses hypergolic chemical reactions?

- Ion thrusters
- Monopropellant engines
- Solid propellant motors
- **Bipropellant engines**

Which of the following chemicals can be used in a monopropellant engine?

- Hydrazine
- Hydrogen
- Oxygen
- Helium
To produce a higher final velocity the launch vehicle must be:

- A multi stage
- A single stage
- A double stage
- A half stage

When a rocket is in flight, as fuel is used the total weight falls and acceleration is?

- Increased
- Not affected
- Reduced
- Doubled

A launch vehicle uses a solid rocket booster to:

- Increase the thrust of the first stage to overcome atmospheric drag
- Provide a second stage to accelerate the satellite
- Accelerate the satellite into its final orbit
- Control the drift of the satellite into its final location

Which of the following manoeuvres is performed by burning the apogee boost motor?

- Lift off
- Fairing jettison
- Controlling orbital drift
- Final acceleration into GTO

Which schoolteacher discovered that multi-staged rockets could overcome Earth's gravity?

- Robert Goddard
- William Hale
- Herman Oberth
- Konstantin Tsiolkovsky

Who piloted the first rocket plane to break the sound barrier?

- Neil Armstrong
- Fritz Opel
- Chuck Yeager
- Bert Rutan

Which was the first rocket plane to fly into space?

- The Bell X-1
- The X-15
- The ME 163
- The Ente

In terms of Newton's Laws, the action produced by a rocket engine is caused by its?

- Ability to operate without atmospheric oxygen
- Reaction against the atmosphere
- Reaction against the pull of gravity
- Acceleration of gases through the throat and nozzle
In which part(s) of a rocket motor are the exhaust gases accelerated?

- The throat
- The nozzle
- The throat and the nozzle
- None of these

Huge fuel tanks are required for Liquid Hydrogen because?

- It has a very low density
- It boils at a very low temperature
- It has a very high density
- It is very toxic

Regenerative cooling is used to:

- Increase the pressure of the propellant
- Prevent the combustion chamber and nozzle from melting
- Improve the efficiency of the injectors
- Raise the temperature of the LOX

A military rocket which cannot steer itself towards a target is called:

- A guided weapon
- A launch vehicle
- An unguided weapon
- A payload

Which of these statements is NOT true?

- Cold gas motors are cheap, simple and safe
- Cold gas motors are very efficient
- Cold gas motors do not provide much thrust and are very inefficient
- Cold gas motors are used on small satellites

Which rocket was built for the first moon landing?

- Atlas
- R7
- Saturn V
- Redstone

Which of the following statements about a solid propellant motor with a regressive burn is true?

- The thrust of a solid propellant motor with a regressive burn reduces as the propellant burns
- The thrust of a solid propellant motor with a regressive burn stays constant as the propellant burns
- The thrust of a solid propellant motor with a regressive burn increases as the propellant burns
- The thrust of a solid propellant motor with a regressive burn can be controlled

Which of the following gases is used to pressurise blowdown systems?

- Helium
- Hydrogen
- Hydrazine
- Oxygen
Which country’s national anthem refers to the use of rockets in a siege?

- Great Britain
- Germany
- **America**
- Russia

Who developed the Delta launch vehicle?

- **America**
- Russia
- China
- Europe

Rocket propulsion systems that have moving parts are called?

- Motors
- Ion Thrusters
- **Engines**
- Chemical Motors

What is the name of the document which defines safety requirements for model rocketry?

- Handbook of Model Rocketry
- The Rocket Safety manual
- Rocketry Safety Procedures
- **UKRA Safety Code**

In which year did the first liquid fuelled rocket fly?

- 1906
- 1916
- **1926**
- 1936

ICBM stands for?

- Interception by Missile
- Internally Carried By Missile
- **Intercontinental Ballistic Missile**
- International Bombing Missile

Who developed the Ariane launch vehicle?

- America
- **Europe**
- Russia
- China

A SAM is a missile for attacking:

- Tanks
- Ships
- **Aircraft**
- Building
The altitude of the Clark orbit is:

- 36000 miles
- 36000 metres
- **36000 Kilometres**
- 36000 feet

Where were rockets first made?

- England
- **China**
- United States of America
- Russia

The only mass-produced rocket plane was

- The Ente
- The Bell X-1
- The X-15
- **The ME 163**

Who designed the Russian R7 Intercontinental Ballistic Missile?

- Sergei Korolyov
- Konstantin Tsiolkovsky
- Yuri Gagarin
- Wernher von Braun

Who made the first rocket car?

- Fritz Opel
- Wernher von Braun
- Herman Oberth
- Robert Goddard

Who was the first man to travel in space?

- Neil Armstrong
- **Yuri Gagarin**
- Robert Goddard
- Wernher von Braun