

Name: \_\_\_\_\_ Hall Ticket No. 

						A			
--	--	--	--	--	--	---	--	--	--

**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.****I Choose the correct alternative:**

1. Typical specific impulse of solid rocket motor when compared to liquid propellant rocket engine [      ]  
a. Higher                      b. Lower                      c. Medium                      d. Difficult to say
2. Potassium perchlorate propellants with common fuels gives a specific impulse of [      ]  
a. 180-220sec                      b. 300-400sec                      c. 50-100sec                      d. 400-500sec
3. Burning rate of solid rocket motor propellant can be increased by adding catalyst [      ]  
a.  $\text{LiClO}_4$                       b.  $\text{NH}_4\text{ClO}_4$                       c.  $\text{TiO}_2$                       d.  $\text{LiCl}$
4. Typical value of Ignition delay for small armament rocket is [      ]  
a. 10-20sec                      b. 100-200millisec                      c. 400-500millisec                      d. 10-20millisec
5. Typical Working substance for ion propulsion is [      ]  
a. Lithium                      b. Hydrogen                      c. Xenon                      d. Carbon
6. Typical Propellant used for Nuclear propulsion is [      ]  
a. Lithium                      b. Hydrogen                      c. Xenon                      d. Carbon
7. Solid core Nuclear thruster(hydrogen fuel) typically delivers a specific impulse of [      ]  
a. 800-1000sec                      b. 80-100sec                      c. 8000-10000sec                      d. 500sec
8. Using the principle of Fission fragment, theoretically achievable fragment speed [      ]  
a. 12% speed of light                      b. 9% speed of light                      c. 6% speed of light                      d. 3% speed of light
9. Solar wind contains millions of protons & electron that flow near earth orbit at [      ]  
a. 400-600km/s                      b. 100-150km/s                      c. 50-100km/s                      d. 4000-6000km/s
10. The effect of Gravitational shielding refers to [      ]  
a. Reducing mass of an object                      b. Increasing the velocity of an object  
c. None of the above                      d. Reduction of weight of an object

**Cont.....2**

**II Fill in the blanks**

11. To ensure low conductivity liners for insulating the metal parts and to avoid thermal stress \_\_\_\_\_ material is used in solid rocket motors
12. Intermittent burning is called as \_\_\_\_\_
13. Ignition delay increases with a decrease in \_\_\_\_\_
14. A side burning grain is called \_\_\_\_\_ when combustion takes place on all lateral faces.
15. Exhaust velocity for electric static thruster is  $u_e =$  \_\_\_\_\_
16. Two high performance electromagnetic thrusters being investigated are \_\_\_\_\_ & \_\_\_\_\_
17. Due to higher energy density, Propellant efficiency of nuclear engine is nearly \_\_\_\_\_ than the chemical rockets
18. Most widely studied configuration for terrestrial fusion is \_\_\_\_\_
19. Big difficulty with anti matter rocket is \_\_\_\_\_ & \_\_\_\_\_
20. Main element of field emission electric propulsion thruster is \_\_\_\_\_

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****III B.Tech. II Sem., II Mid-Term Examinations, April – 2014****AEROSPACE PROPULSION-II****Objective Exam**Name: \_\_\_\_\_ Hall Ticket No. 

						A			
--	--	--	--	--	--	---	--	--	--

**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.****I Choose the correct alternative:**

1. Typical value of Ignition delay for small armament rocket is [      ]  
a. 10-20sec                      b. 100-200millisec    c. 400-500millisec    d. 10-20millisec
2. Typical Working substance for ion propulsion is [      ]  
a. Lithium                      b. Hydrogen                      c. Xenon                      d. Carbon
3. Typical Propellant used for Nuclear propulsion is [      ]  
a. Lithium                      b. Hydrogen                      c. Xenon                      d. Carbon
4. Solid core Nuclear thruster(hydrogen fuel) typically delivers a specific impulse of [      ]  
a. 800-1000sec                      b. 80-100sec                      c. 8000-10000sec                      d. 500sec
5. Using the principle of Fission fragment, theoretically achievable fragment speed [      ]  
a. 12% speed of light    b. 9% speed of light    c. 6% speed of light    d. 3% speed of light
6. Solar wind contains millions of protons & electron that flow near earth orbit at [      ]  
a. 400-600km/s                      b. 100-150km/s                      c. 50-100km/s                      d. 4000-6000km/s
7. The effect of Gravitational shielding refers to [      ]  
a. Reducing mass of an object                      b. Increasing the velocity of an object  
c. None of the above                      d. Reduction of weight of an object
8. Typical specific impulse of solid rocket motor when compared to liquid propellant rocket engine [      ]  
a. Higher                      b. Lower                      c. Medium                      d. Difficult to say
9. Potassium perchlorate propellants with common fuels gives a specific impulse of [      ]  
a. 180-220sec                      b. 300-400sec                      c. 50-100sec                      d. 400-500sec
10. Burning rate of solid rocket motor propellant can be increased by adding catalyst [      ]  
a.  $\text{LiClO}_4$                       b.  $\text{NH}_4\text{ClO}_4$                       c.  $\text{TiO}_2$                       d.  $\text{LiCl}$

**Cont.....2**

**II Fill in the blanks**

11. A side burning grain is called \_\_\_\_\_ when combustion takes place on all lateral faces.
12. Exhaust velocity for electric static thruster is  $u_e =$  \_\_\_\_\_
13. Two high performance electromagnetic thrusters being investigated are \_\_\_\_\_ & \_\_\_\_\_
14. Due to higher energy density, Propellant efficiency of nuclear engine is nearly \_\_\_\_\_ then the chemical rockets
15. Most widely studied configuration for terrestrial fusion is \_\_\_\_\_
16. Big difficulty with anti matter rocket is \_\_\_\_\_ & \_\_\_\_\_
17. Main element of field emission electric propulsion thruster is \_\_\_\_\_
18. To ensure low conductivity liners for insulating the metal parts and to avoid thermal stress \_\_\_\_\_ material is used in solid rocket motors
19. Intermittent burning is called as \_\_\_\_\_
20. Ignition delay increases with a decrease in \_\_\_\_\_

Name: \_\_\_\_\_ Hall Ticket No. 

						A			
--	--	--	--	--	--	---	--	--	--

**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.****I Choose the correct alternative:**

1. Typical Propellant used for Nuclear propulsion is [      ]  
a. Lithium                      b. Hydrogen                      c. Xenon                      d. Carbon
2. Solid core Nuclear thruster(hydrogen fuel) typically delivers a specific impulse of [      ]  
a. 800-1000sec                      b. 80-100sec                      c. 8000-10000sec                      d. 500sec
3. Using the principle of Fission fragment, theoretically achievable fragment speed [      ]  
a. 12% speed of light    b. 9% speed of light    c. 6% speed of light    d. 3% speed of light
4. Solar wind contains millions of protons & electron that flow near earth orbit at [      ]  
a. 400-600km/s                      b. 100-150km/s                      c. 50-100km/s                      d. 4000-6000km/s
5. The effect of Gravitational shielding refers to [      ]  
a. Reducing mass of an object                      b. Increasing the velocity of an object  
c. None of the above                      d. Reduction of weight of an object
6. Typical specific impulse of solid rocket motor when compared to liquid propellant rocket engine [      ]  
a. Higher                      b. Lower                      c. Medium                      d. Difficult to say
7. Potassium perchlorate propellants with common fuels gives a specific impulse of [      ]  
a. 180-220sec                      b. 300-400sec                      c. 50-100sec                      d. 400-500sec
8. Burning rate of solid rocket motor propellant can be increased by adding catalyst [      ]  
a.  $\text{LiClO}_4$                       b.  $\text{NH}_4\text{ClO}_4$                       c.  $\text{TiO}_2$                       d.  $\text{LiCl}$
9. Typical value of Ignition delay for small armament rocket is [      ]  
a. 10-20sec                      b. 100-200millisec                      c. 400-500millisec                      d. 10-20millisec
10. Typical Working substance for ion propulsion is [      ]  
a. Lithium                      b. Hydrogen                      c. Xenon                      d. Carbon

**Cont.....2**

**II Fill in the blanks**

11. Two high performance electromagnetic thrusters being investigated are \_\_\_\_\_ & \_\_\_\_\_
12. Due to higher energy density, Propellant efficiency of nuclear engine is nearly \_\_\_\_\_ than the chemical rockets
13. Most widely studied configuration for terrestrial fusion is \_\_\_\_\_
14. Big difficulty with anti matter rocket is \_\_\_\_\_ & \_\_\_\_\_
15. Main element of field emission electric propulsion thruster is \_\_\_\_\_
16. To ensure low conductivity liners for insulating the metal parts and to avoid thermal stress \_\_\_\_\_ material is used in solid rocket motors
17. Intermittent burning is called as \_\_\_\_\_
18. Ignition delay increases with a decrease in \_\_\_\_\_
19. A side burning grain is called \_\_\_\_\_ when combustion takes place on all lateral faces.
20. Exhaust velocity for electric static thruster is  $u_e =$  \_\_\_\_\_

-oOo-

Name: \_\_\_\_\_ Hall Ticket No. 

						A			
--	--	--	--	--	--	---	--	--	--

**Answer All Questions. All Questions Carry Equal Marks. Time: 20 Min. Marks: 10.****I Choose the correct alternative:**

1. Using the principle of Fission fragment, theoretically achievable fragment speed [      ]  
a. 12% speed of light   b. 9% speed of light   c. 6% speed of light   d. 3% speed of light
2. Solar wind contains millions of protons & electron that flow near earth orbit at [      ]  
a. 400-600km/s      b. 100-150km/s      c. 50-100km/s      d. 4000-6000km/s
3. The effect of Gravitational shielding refers to [      ]  
a. Reducing mass of an object      b. Increasing the velocity of an object  
c. None of the above      d. Reduction of weight of an object
4. Typical specific impulse of solid rocket motor when compared to liquid propellant rocket engine [      ]  
a. Higher      b. Lower      c. Medium      d. Difficult to say
5. Potassium perchlorate propellants with common fuels gives a specific impulse of [      ]  
a. 180-220sec      b. 300-400sec      c. 50-100sec      d. 400-500sec
6. Burning rate of solid rocket motor propellant can be increased by adding catalyst [      ]  
a.  $\text{LiClO}_4$       b.  $\text{NH}_4\text{ClO}_4$       c.  $\text{TiO}_2$       d.  $\text{LiCl}$
7. Typical value of Ignition delay for small armament rocket is [      ]  
a. 10-20sec      b. 100-200millisec      c. 400-50millisec      d. 10-20millisec
8. Typical Working substance for ion propulsion is [      ]  
a. Lithium      b. Hydrogen      c. Xenon      d. Carbon
9. Typical Propellant used for Nuclear propulsion is [      ]  
a. Lithium      b. Hydrogen      c. Xenon      d. Carbon
10. Solid core Nuclear thruster(hydrogen fuel) typically delivers a specific impulse of [      ]  
a. 800-1000sec      b. 80-100sec      c. 8000-10000sec      d. 500sec

**Cont.....2**

**II Fill in the blanks**

11. Most widely studied configuration for terrestrial fusion is \_\_\_\_\_
12. Big difficulty with anti matter rocket is \_\_\_\_\_ & \_\_\_\_\_
13. Main element of field emission electric propulsion thruster is \_\_\_\_\_
14. To ensure low conductivity liners for insulating the metal parts and to avoid thermal stress \_\_\_\_\_ material is used in solid rocket motors
15. Intermittent burning is called as \_\_\_\_\_
16. Ignition delay increases with a decrease in \_\_\_\_\_
17. A side burning grain is called \_\_\_\_\_ when combustion takes place on all lateral faces.
18. Exhaust velocity for electric static thruster is  $u_e =$  \_\_\_\_\_
19. Two high performance electromagnetic thrusters being investigated are \_\_\_\_\_ & \_\_\_\_\_
20. Due to higher energy density, Propellant efficiency of nuclear engine is nearly \_\_\_\_\_ than the chemical rockets