

CALCULATION EXAM 2016 ANSWERS

SECTION 1 - Total 30 marks

Q1 Calculate the House cusps to within a degree for the following two sets of data:

10 marks

- | | | |
|-----|--------------------|-----------------------------|
| (a) | 10 November 1974 | 10:55pm |
| | Melbourne Victoria | 37S49 144E58 |
| | Standard Time Zone | -10 hours East of Greenwich |
| | Daylight Savings | YES |

ANSWER

Closest Sidereal Time

- using **The American Book of Tables** = 12h 52 00
- **using The Placidus Book of Tables for Southern Latitudes** the answer is 12 hours different = 00h 52 00

Hand Calculations:

Computer Calculations:

MC	=14 Aries 07	14 Aries 05
11	=11 Taurus 20	11 Taurus 20
12	=3 Gemini 29	3 Gemini 31
ASC	=23 Gemini 53	23 Gemini 58
2	=29 cancer 41	29 Cancer 44
3	=9 Virgo 18	9 Virgo 16

- | | | |
|-----|--------------------|----------------------------|
| (b) | 14 February 19 98 | 3:28pm |
| | New York, New York | 40 N 45 73 W 57 |
| | Standard Time Zone | +5 hours East of Greenwich |
| | Daylight Savings | NO |

10 marks

ANSWER

Closest Sidereal Time

- using **The American Book of Tables** = 1 hrs 12 mins
- Using **The Placidus Book of Tables for Southern Latitudes** the answer is 12 hours different = 13 hours 12 minutes

Hand Calculations:**Computer Calculations**

MC	= 19 Aries 30	19 Aries 11
11	= 26 Taurus 14	25 Taurus 51
12	= 2 Cancer 31	2 Cancer 07
ASC	= 3 Leo 30	3 Leo 07
2	= 23 Leo 46	23 Leo 27
3	= 18 Virgo 24	18 Virgo 06

Q2 Calculate the longitudinal positions of the following planets to within 30 minutes of zodiacal longitude. All data below is in GMT. **10 marks**

Hand Calculations**Computer Calculations**

1. Sun	16 Aries 56	16 Aries 55
2. Moon	25 Leo 26	25 Leo 26
3. Mercury	18 Leo 53 Retro	18 Leo 53 Retro
4. Venus	20 Scorpio 36	20 Scorpio 36
5. Mars	6 Leo 09	6 Leo 12

2 . Using the planets and the North Node [and the above orbs], name one aspect pattern and list the planets that form this pattern.

T- square with NN opposite Mars on the SN square to Neptune

2 marks

T square with Saturn opp Neptune on the square to Mars

Note: half marks for Stellium of Moon, Venus and Jupiter plus

3. Calculate the Vertex to the nearest degree.

4 marks

Using the Placidus Table of Houses for Southern Latitudes [Michelsen will be different]

Reverse the sign on the MC = **22 Leo 04** and look up the closest MC in the tables = **21 Leo 37**
or **22 Leo 39**

Read down to the co-latitude - 90 – 33 52 = **56 08**

The position of the ASC = Vertex = **3 Cap 34** or **4 Cap 26**

Solar Fire answer = 4 Cap 09

4. What is the Lunation Phase for this chart?

4 marks

Moon – Sun = Sun/Moon angle = Lunation Phase

Moon 21 Libra 12 = 201 degrees 12 minutes of absolute longitude

-Sun 11 Virgo 33 = 161 degrees 33 minutes

= 39 degrees 39 minutes

Solar Fire = 39 degrees 38 minutes

= New Moon

5. What is the short arc midpoint of Saturn and Jupiter?

4 marks

Saturn 22 Taurus 37 = 52 degrees of absolute longitude 37

Jupiter 3 Scorpio 04 = 213 degrees of absolute longitude 04 minutes

Add = 265 degrees 41 minutes

Divide by 2 = 132.5 degrees 20 minutes = 132 degrees 50 minutes

Convert back = **12 Leo 50 minutes**

Solar Fire midpoint listing = 12 Leo 50 minutes

An Alternative Calculation

Or Jupiter = 213 04

Saturn 52 37 subtract = 160 27 divide by 2 = 80 13 30 +52 37 = 132 50 30

Convert back = **12 Leo 50 30secs**

6. Which planet disposes the Sun?

1 mark

Mercury

7. Identify one planet in its dignity [rulership].

1 mark

Mercury in Virgo or **Venus** in Libra

8. Using the nocturnal formula, calculate the Part of Fortune to the nearest Degree.

4 marks

Formula: ASC + Sun – Moon

ASC 15 Taurus 27 = 45 degrees 27

+ Sun 11 Virgo 33 = 161 degrees 33

= 206 degrees 60 = 207 degrees

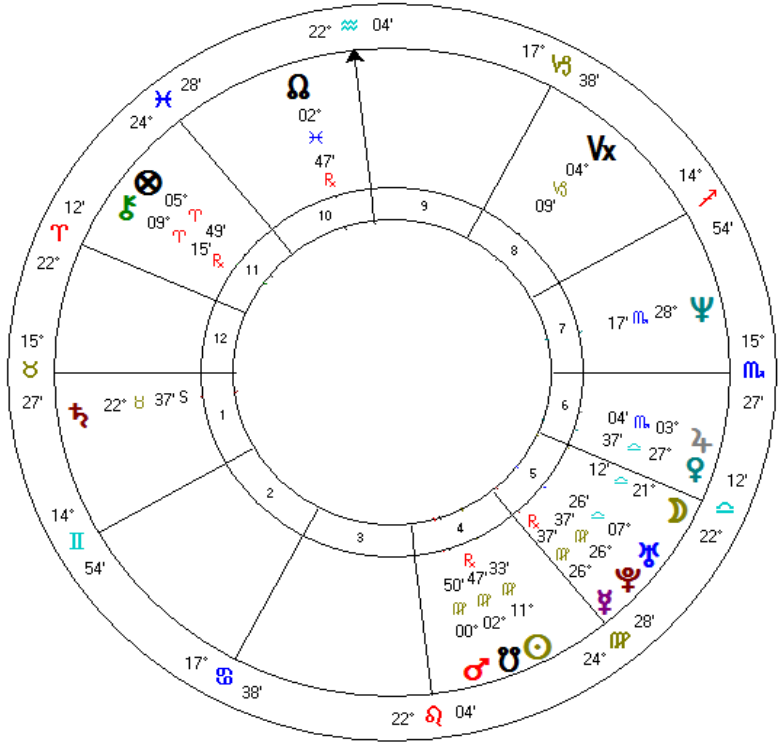
Minus Moon 21 Libra 12 = - 210 degrees 12

= 5 degrees 48

Convert back = **5 Aries 48**

Solar Fire = 5 Aries 49

Deni Hines
Female Chart
4 Sep 1970, Fri
10:40 pm AEST - 10:00
Sydney, NSW
33°S 52' 151°E 13'
Geocentric
Tropical
Placidus
True Node
Rating: C



SECTION 3 – 40 marks

Please note: There may be a slight difference in answers in this section depending on which Ephemerides is used. The examiners will allow for this.

Q1 Calculate a 12 month Secondary Progressed Moon table for Deni for 2016, starting from January 23, to the nearest 30 minutes of an arc

6 marks

ACD date using midnight ephemeris is 23rd of February 1970

Count 46 days from GMT DOB = 4 September 1970

Moon position on this day is **2 Cancer 8 minutes 14 seconds** – place next to ACD/ February 23

Monthly Adjustment using Michelsen 24 hour Moon

Midnight position 2 Cancer 08

Midnight position day after 14 Cancer 40

12 degrees 32

divide by 12 for monthly rate of travel = **1 degree 3 minutes**

so add and subtract from ACD date of **February 23 2016**

or Monthly Adjustment using Michelsen 12 hour Moon on 23rd Feb 1970

Midnight position 2 Cancer 08 14

Midday position 8 Cancer 26 56

Difference = 6 18 42 = 6 monthly m'ment

Divide by 6 = **1 03 07** = monthly m'ment

So add or subtract from ACD date 23rd February 1970

Hand Calculations

23 Jan 2016 1 Cancer 05

23 February [ACD] 2 Cancer 08

23 March 3 Cancer 11

23 April 4 Cancer 14

23 May	5 Cancer 17
23 June	6 Cancer 20
23 July	7 Cancer 23
23 August	8 Cancer 26
23 September	9 Cancer 29
23 October	10 Cancer 32
23 November	11 Cancer 35
23 December	12 Cancer 38

Note: The Solar Fire position for the progressed moon on December 23 2016 is 12 Cancer 34, well within 30 minutes tolerance.

Q2 Age of 2nd Secondary Progressed Full Moon = 40 years of age at 21 Aries 4 minutes

4 marks

Using GMT date 4 September 1970 as 0 count down in ephemeris until you reach 2nd Full Moon = 14 October 1970 at **21 Aries 04 minutes**

Day for a year therefore = 40 years old.

Q3 Age when Progressed Sun conjuncts Uranus = 27 years

3 marks

Natal Uranus is 7 Libra 26.

Count the days from GMT DOB – 4 September 1970 - until Sun reaches the position of natal Uranus at 7 Libra 33

= 1 October

= 27 days

= **27 years**

Q4 Age Solar Arc Uranus conjuncts natal DESC = 39 years of age

4 marks

Subtract Desc = 15 Scorpio 27 225 27

Uranus = 7 Libra 26 187 26

SA difference = 38 01

	Sun =	11 Virgo 33	161 33
ADD		SA Diff.	<u>38 01</u>
			= 199 34 = 19 Libra 34

Go down ephemeris until Sun reaches the required position of **19 Libra 34 = 39 days /years**

NOTE REGARDS TRANSITS

Michelsen 1950 to 2050 has slightly different dates/degrees to **Michelsen 2000 to 2050** and **Aureas 1900 to 2050** so the examiners will allow a day tolerance.

**Q5 During 2017 and 2018 Transiting Uranus will oppose Deni's natal Venus.
List the exact GMT dates of this aspect. 3 marks**

Venus = 27 Libra 37. Dates that Uranus opposes this point

1. **16 June 2017**
2. **20/21 September 2017**
3. **3 April 2018**

Q6. List the exact GMT dates in 2016 and 2017 when transiting Neptune is opposite Deni's natal Sun

4 marks

Sun= 11 Virgo 33

- 2/3 May 2016
- **27/28 July 2016**
- **25/26 February 2017**
- **4/5 November 2017**
- 9/10 Dec 2017

Q7. Using a one degree orb both applying and separating, list the GMT periods when Pluto squares Dani's Moon. 3 marks

Natal Moon = 21 Libra 12 - so from 20 Capricorn12 to 22 Capricorn 12

13 February 2018 – 5/6 July 2018

19/20 December 2018 – 19/20 February 2019

1/2 July 2019 – 26/25 December 2019

Q8. List the exact [GMT] dates and zodiacal degrees of all solar and lunar eclipses for 2017. 4 marks

Solar Eclipses

26 February 2017 8 Pisces 12

21 August 2017 28 Leo 53

Lunar Eclipses

11 February 2017 22 Leo 28

7 August 2017 15 Aquarius 25

Q9. What were the exact (GMT) periods when Mercury was retrograde during 2015? 3 marks

21 January to 11 February (also pay February 10)

19 May to 11 June (also pay June 10)

17 September to 9 October (also pay October 8)

10. Calculate the Adjusted Calculation Date for the following birth data: 6 marks

**29 March 1963 9:15am
Sydney NSW Australia
Standard Time Zone -10 hours (no daylight savings)**

Step 1 DOB 9 15 00 on 29 March 1963
Minus 10 00 00 hours STZ adjustment

GMT 23 15 00 on 28 March 1963

Step 2 Sidereal time from ephemeris =12 18 46 on GMT date 28 3 1963

Plus 24 hrs as GMT is higher =36 18 46

GMT Birthtime 23 15 00

- Difference is ACD Sidereal time 13 03 46

Step 3 Turn back in ephemeris to this time

Step 4 Adjusted Calculation date + **8 April 1962** (Midnight ephemeris)

Alternative Calculation

1. Local time and date of birth in 24 hour clock **29 March 1963 9.15am**
 = GMT / UT D.O.B [add or subtract the time zone difference] ...minus 10 hours
 = **23. 15 on 28 March 1963**

2. For a midnight Ephemeris subtract the GMT / UT of birth from 24 hours

	24 hours	00 minutes	
-	23 hours	15 minutes	

	0 h	45 m	
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3.. Add this to the GMT sidereal time of birth [28 March 1963].

	+ 12 hours	18 minutes	46 seconds
=	12 hours	63 minutes	46 seconds
=	13	03	46

[Subtract 24 hours if over 24

4. Look backwards in the Ephemeris to find the date of this sidereal time = the ACD

ACD = 8 April 1962

SECTION 3 – TOTAL 40 MARKS