

# Exam simulation

PPL(H) - Private Pilot License - Principles of Flight (Helicopter)



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STUDENT NAME:

DATE AND TIME:

## 01. What is the advantage of a gyrodyne compared to a helicopter?

- a) Large centre of gravity limits
- b) High airspeed in cruise
- c) No gearbox is necessary
- d) Low fuel consumption

## 02. Which movement is caused by the Coriolis effect on the advancing rotor blade?

- a) Mass movement outwards
- b) Drag movement forwards
- c) Tilt movement backwards
- d) Flapping downwards

## 03. Which of the following documents have to be on board for an international flight? a) Certificate of aircraft registration b) Certificate of airworthiness c) Airworthiness review certificate d) EASA Form-1 e) Airplane logbook f) Appropriate papers for every crew member g) Technical logbook

- a) D, f, g
- b) B, c, d, e, f, g
- c) A, b, c, e, f
- d) A, b, e, g

## 04. A pilot can contact FIS (flight information service)...

- a) Via telephone.
- b) Via internet.
- c) Via radio communication.
- d) By a personal visit.

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## 05. Why does a stall begin on the retreating rotor blade at high cruise speeds?

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- a) The airflow reaches subsonic speed and causes an increase of the induced drag
- b) The small pitch angle and a relatively low peripheral speed cause a small effective angle of attack
- c) The large pitch angle and relatively low peripheral speed cause a large effective angle of attack
- d) The airflow reaches supersonic speed and causes an increase of the parasite drag

## 06. The total weight of an aeroplane is acting vertically through the...

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- a) Center of gravity.
- b) Center of pressure.
- c) Neutral point.
- d) Stagnation point.

## 07. What is the primary purpose of an aircraft accident investigation?

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- a) To identify the reasons and work out safety recommendations
- b) To Determine the guilty party and draw legal consequences
- c) To clarify questions of liability within the meaning of compensation for passengers
- d) To work for the public prosecutor and help to follow-up flight accidents

## 08. What is necessary in terms of PART-FCL after differences training for helicopters?

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- a) An application for renewal must be filed for the competent authority in a prescribed form and manner
- b) The logbook of the pilot or an equivalent document must be signed by the flight instructor
- c) A flight order for solo flights must be submitted to the competent authority by the instructor
- d) The pilot must pass a written line check exam in an aviation school

## 09. What is the minimum flight visibility in airspace "C" for an aircraft operating under VFR at 5000 ft MSL?

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- a) 5000 m
- b) 8000 m
- c) 3000 m
- d) 1500 m

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## 10. A Pre-Flight Information Bulletin (PIB) is a presentation of current...

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- a) ICAO information of operational significance prepared after the flight.
- b) NOTAM information of operational significance prepared prior to flight.
- c) AIC information of operational significance prepared after the flight.
- d) AIP information of operational significance prepared prior to flight.

## 11. What is the correct frequency for an initial distress message?

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- a) Current frequency
- b) FIS frequency
- c) Emergency frequency
- d) Radar frequency

## 12. Calculated take-off mass = 2300 lbs, calculated CG = 95.75 in, fuel burn = 170 lbs on station 87.00 in. Where is the CG situated after the landing?

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- a) 96.57 in
- b) 96.45 in
- c) 97.39 in
- d) 94.11 in

## 13. What does the reported runway condition "DAMP" mean?

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- a) A large part of the surface is flooded
- b) The runway is clear of water, ice, and snow
- c) Change of colour on the surface due to moisture
- d) Wet surface, but no significant puddles are visible

## 14. In which way may an altimeter subscale which is set to an incorrect QNH lead to an incorrect altimeter reading?

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- a) If the subscale is set to a higher than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended
- b) If the subscale is set to a lower than actual pressure, the indication is too high. This may lead to much closer proximity to the ground than intended
- c) If the subscale is set to a lower than actual pressure, the indication is too low. This may lead to much closer proximity to the ground than intended
- d) If the subscale is set to a higher than actual pressure, the indication is too low. This may lead to much greater heights above the ground than intended

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**15. What behavior does a helicopter without stabilization systems show after external disturbances in a hover, without a corrective action?**

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- a) Statically stable and dynamically instable
- b) Statically stable and dynamically stable
- c) Statically indifferent and dynamically instable
- d) Statically stable and dynamically indifferent

**16. What danger is most imminent during an approach to an airfield situated in a valley, with strong wind aloft blowing perpendicular to the mountain ridge?**

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- a) Heavy downdrafts within rainfall areas below thunderstorm clouds
- b) Reduced visibility, maybe loss of sight to the airfield during final approach
- c) Formation of medium to heavy clear ice on all aircraft surfaces
- d) Wind shear during descent, wind direction may change by 180°

**17. The load factor "n" describes the relationship between...**

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- a) Drag and lift.
- b) Thrust and drag.
- c) Lift and weight.
- d) Weight and thrust.

**18. What is the lowest possible VFR flight level if a true course of 181° is selected and a variation of 3° east exists?**

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- a) FL 065
- b) FL 060
- c) FL 055
- d) FL 050

**19. During hover flight, the induced airflow velocity...**

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- a) Is equal above and below the rotor.
- b) Increases further having passed the rotor.
- c) Remains constant after having passed the rotor.
- d) Decreases after having passed the rotor.

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**20. After take-off an aeroplane gets into a wind shear with decreasing headwind. As a result...**

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- a) The aeroplane flies below the estimated climb path.
- b) The aeroplane flies above the estimated climb path.
- c) The ground speed (GS) will decrease.
- d) The true airspeed (TAS) will increase.

**21. The pilot receives a QDR of 225° from the VDF ground station. Where is the aircraft located in relation to the ground station?**

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- a) Northwest
- b) Southeast
- c) Northeast
- d) Southwest

**22. The term "moment" with regard to a mass and balance calculation is referred to as...**

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- a) Quotient of a mass and a balance arm.
- b) Difference of a mass and a balance arm.
- c) Sum of a mass and a balance arm.
- d) Product of a mass and a balance arm.

**23. What is the purpose of "interception lines" in visual navigation?**

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- a) To mark the next available en-route airport during the flight
- b) They are used as easily recognizable guidance upon a possible loss of orientation
- c) They help to continue the flight when flight visibility drops below VFR minima
- d) To visualize the range limitation from the departure aerodrome

**24. The height of the tropopause of the International Standard Atmosphere (ISA) is at...**

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- a) 48000 ft.
- b) 5500 ft.
- c) 36000 ft.
- d) 11000 ft.

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## 25. Which of the stated materials shows the highest strength?

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- a) Aluminium
- b) Magnesium
- c) Carbon fiber re-inforced plastic
- d) Wood

## 26. The term "maximum elevation figure" (MEF) is defined as...

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- a) The highest elevation within an area covering 30 minutes of latitude and 30 minutes of longitude.
- b) The highest elevation within an area covering 30 minutes of latitude and 30 minutes of longitude plus a safety margin, rounded to the next higher 100 ft.
- c) The highest elevation within an area covering 30 minutes of latitude and 30 minutes of longitude plus a safety margin of 1000 ft (305 m), rounded to the next higher 100 ft.
- d) The highest elevation within an area covering 1 degree of latitude and 1 degree of longitude plus a safety margin, rounded to the next lower 100 ft.

## 27. Which landing site (no wind) prevents the impairment of the ground effect?

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- a) Plain terrain
- b) Narrow forest glade
- c) Elevated helipad
- d) Sloping ground

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**28. (For this question, please use annex PFP-061) According ICAO, what symbol indicates a group of unlighted obstacles? (2,00 P.) Siehe Anlage 16**



PFP-061

- a) D
- b) C
- c) A
- d) B

**29. What is the correct way of acknowledging "You are now entering airspace Delta"?**

- a) Wilco
- b) Entering
- c) Roger
- d) Airspace Delta

**30. The occurrence of a vertigo is most likely when moving the head...**

- a) During a descent.
- b) During a turn.
- c) During a climb.
- d) During a straight horizontal flight.

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**31. What is the function of the white blood cells (leucocytes)?**

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- a) Blood coagulation
- b) Oxygen transport
- c) Immune defense
- d) Blood sugar regulation

**32. An aircraft is flying at aFL 75 with an outside air temperature (OAT) of -9°C. The QNH altitude is 6500 ft. The true altitude equals...**

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- a) 6750 ft.
- b) 6500 ft.
- c) 6250 ft.
- d) 7000 ft.

**33. What extinguishing agent is the least suitable for an aircraft fire?**

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- a) Powder
- b) Water
- c) Foam
- d) Halon

**34. "Foehn" conditions usually develop with...**

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- a) Instability, widespread air blown against a mountain ridge.
- b) Stability, widespread air blown against a mountain ridge.
- c) Instability, high pressure area with calm wind.
- d) Stability, high pressure area with calm wind.



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**35. (For this question, please use annex PFP-063) According ICAO, what symbol indicates a general spot elevation? (2,00 P.) Siehe Anlage 18**

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- A 300
- B (300)
- C • 1737
- D • 1737

PFP-063

- a) C
- b) A
- c) B
- d) D

**36. An aeroplane's current supply is carried out by the: 1. Battery 2. Generator 3. Relay 4. Circuit breaker**

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- a) 3 and 4
- b) 2 and 3
- c) 1 and 4
- d) 1 and 2

**37. The transponder code in case of hi-jacking is...**

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- a) 7000.
- b) 7500.
- c) 7600.
- d) 7700.

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## 38. In which outside air temperature is icing most likely?

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- a) Between -15° C and 0° C
- b) Between -5° C and +20° C
- c) Between -20° C and +5° C
- d) Between -10° C and +10° C

## 39. With increasing altitude, the power of a carburettor engine...

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- a) Remains constant.
- b) Increases.
- c) Decreases.
- d) First decreases, from 5000 ft on increases.

## 40. The ground effect is noticeable by...

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- a) Strong vertical oscillations.
- b) Strong horizontal vibrations.
- c) Larger power requirements.
- d) Lower power requirements.

## 41. What does the abbreviation "QTE" stand for?

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- a) Magnetic bearing to the station
- b) True bearing to the station
- c) True bearing from the station
- d) Magnetic bearing from the station

## 42. During an autorotation a helicopter accelerates from 60 to 90 knots without further corrections. The rotor RPM will...

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- a) Remain constant.
- b) Decrease.
- c) Vary.
- d) Increase.

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## 43. What needs to be observed in conjunction with flying above mountainous terrain?

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- a) Unexpected changes in weather and turbulence.
- b) Unexpected overspeed faults and vibrations
- c) Carburettor icing in piston engines
- d) Icing conditions over the predicted freezing level

## 44. Wake turbulence is particularly strong...

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- a) When flying at low speeds.
- b) When flying at high altitudes.
- c) When flying at low altitudes.
- d) When flying at high speeds.

## 45. QNE is the...

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- a) Barometric pressure at a reference datum, typically the runway threshold of an airfield.
- b) Altitude above the reference pressure level 1013.25 hPa.
- c) Magnetic bearing to a station.
- d) Barometric pressure adjusted to sea level, using the international standard atmosphere (ISA).

## 46. What can be expected during a hover flight in ground effect within a forest glade?

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- a) Useful ground effect caused by a smaller induced airflow
- b) No air turbulence through the slipstream and stable attitude
- c) Aspiration of the tail rotor in the direction of the forest and a performance gain
- d) Recirculation of air masses and an impairment of the ground effect

## 47. The term QDR means...

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- a) True bearing from the station to the aircraft.
- b) Magnetic bearing from the aircraft to the station.
- c) True bearing from the aircraft to the station.
- d) Magnetic bearing from the station to the aircraft.

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**48. Which of the following is NOT a risk factor for hypoxia?**

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- a) Smoking
- b) Diving
- c) Menstruation
- d) Blood donation

**49. Which phrase is to be used when a pilot wants the tower to know that he is ready for take-off?**

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- a) Ready for departure
- b) Ready
- c) Ready for start-up
- d) Request take-off

**50. What phrase is used by a pilot to inform the tower about a go-around?**

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- a) Pulling up
- b) Going around
- c) Approach canceled
- d) No landing

**51. What types of airflow can be observed around a rotor blade aerofoil?**

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- a) Laminar airflow on the entire upper surface
- b) Laminar airflow at the leading edge, turbulent airflow further back
- c) Turbulent airflow at the leading edge, laminar airflow further back
- d) Turbulent airflow on the entire upper surface

**52. Point A on the Earth's surface lies exactly on the parallel of latitude of 47°50'27"N. Which point is exactly 240 NM north of A?**

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- a) 49°50'27"N
- b) 53°50'27"N
- c) 43°50'27"N
- d) 51°50'27"N

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**53. Which phrase does a pilot use when he / she wants to check the readability of his / her transmission?**

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- a) Request readability
- b) What is the communication like?
- c) You read me five
- d) How do you read?

**54. Which type of cloud is associated with prolonged rain?**

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- a) Cumulonimbus
- b) Nimbostratus
- c) Cirrostratus
- d) Altocumulus

**55. Given: QTE: 229° VAR: 10° W The QDM equals...**

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- a) 239°.
- b) 049°.
- c) 039°.
- d) 059°.

**56. What impression may be caused when approaching a runway with an upslope?**

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- a) A landing beside the centerline
- b) An overshoot
- c) An undershoot
- d) A hard landing

**57. What should be considered regarding a scheduled flight over water, when land cannot be reached in case of an emergency landing?**

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- a) The flight plan has to contain the exact waypoints
- b) Contact to the nearest ATC shall consist during the whole flight
- c) Transponder code 7600 has to be set during the whole flight
- d) For all passengers there must be life jackets or lifeboats present

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**58. A gyro which is rotating in space responds to forces being applied to it by an evasive movement...**

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- a) At an angle of 45° to the force being applied.
- b) In a northern direction.
- c) At an angle of 90° to the force being applied.
- d) At an angle of 180° to the force being applied.

**59. The pressure which is measured at a ground station and reduced to mean sea level (MSL) by means of the actual atmospheric conditions is called...**

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- a) QFE.
- b) QFF.
- c) QNE
- d) QNH.

**60. Which runway designators are correct for 2 parallel runways?**

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- a) "06L" and "06R"
- b) "24" and "25"
- c) "26" and "26R"
- d) "18" and "18-2"

**61. In which situation is it NOT possible to achieve a pressure compensation between the middle ear and the environment?**

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- a) The eustachien tube is blocked
- b) All windows are completely closed
- c) Breathing takes place using the mouth only
- d) During a light and slow climb

**62. How is referred to a tubular steel construction with a non self-supporting skin?**

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- a) Grid construction
- b) Honeycomb structure
- c) Monocoque construction
- d) Semi-monocoque construction.

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**63. What does the abbreviaton "FIR" stand for?**

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- a) Flight integrity receiver
- b) Flight information region
- c) Flow information radar
- d) Flow integrity required

**64. What change of wind direction can be expected during the passage of a polar front low in Central Europe?**

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- a) Backing wind during passage of the warm front, veering wind during passage of the cold front
- b) Veering wind during passage of the warm front, backing wind during passage of the cold front
- c) Backing wind during passage of the warm front, backing wind during passage of the cold front
- d) Veering wind during passage of the warm front, veering wind during passage of the cold front

**65. The distance between the center of gravity and the datum is called...**

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- a) Lever.
- b) Balance arm.
- c) Torque.
- d) Span width.

**66. What is the correct term for a message used for air traffic control?**

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- a) Flight regularity message
- b) Message related to direction finding
- c) Flight safety message
- d) Meteorological message

**67. The transponder code in case of a radio communication failure is...**

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- a) 7600.
- b) 7000.
- c) 7500.
- d) 7700.

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## 68. Which answer is correct concerning stress?

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- a) Everybody reacts to stress in the same manner
- b) Stress can occur if there seems to be no solution for a given problem
- c) Training and experience have no influence on the occurrence of stress
- d) Stress and its different symptoms are irrelevant for flight safety

## 69. What clouds and weather may result from an humid and instable air mass, that is pushed against a chain of mountains by the predominant wind and forced to rise?

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- a) Thin Altostratus and Cirrostratus clouds with light and steady precipitation.
- b) Overcast low stratus (high fog) with no precipitation.
- c) Embedded CB with thunderstorms and showers of hail and/or rain.
- d) Smooth, unstructured NS cloud with light drizzle or snow (during winter)

## 70. How does air temperature change in ISA from MSL to approx. 10.000 m height?

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- a) From +30° to -40°C
- b) From +20° to -40°C
- c) From +15° to -50°C
- d) From -15° to 50°C



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## Response Scheme

Compare your answers with the following diagram and mark your score!

01: B	02: B	03: C	04: C
05: C	06: A	07: A	08: B
09: A	10: B	11: A	12: B
13: C	14: A	15: A	16: D
17: C	18: C	19: B	20: A
21: D	22: D	23: B	24: C
25: C	26: B	27: A	28: B
29: C	30: B	31: C	32: C
33: B	34: B	35: A	36: D
37: B	38: B	39: C	40: D
41: C	42: B	43: A	44: A
45: B	46: D	47: D	48: B
49: A	50: B	51: B	52: D
53: D	54: B	55: D	56: B
57: D	58: C	59: B	60: A
61: A	62: A	63: B	64: D
65: B	66: C	67: A	68: B
69: C	70: C		

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## Response form

Use this form to mark your answers

01: _____	02: _____	03: _____	04: _____
05: _____	06: _____	07: _____	08: _____
09: _____	10: _____	11: _____	12: _____
13: _____	14: _____	15: _____	16: _____
17: _____	18: _____	19: _____	20: _____
21: _____	22: _____	23: _____	24: _____
25: _____	26: _____	27: _____	28: _____
29: _____	30: _____	31: _____	32: _____
33: _____	34: _____	35: _____	36: _____
37: _____	38: _____	39: _____	40: _____
41: _____	42: _____	43: _____	44: _____
45: _____	46: _____	47: _____	48: _____
49: _____	50: _____	51: _____	52: _____
53: _____	54: _____	55: _____	56: _____
57: _____	58: _____	59: _____	60: _____
61: _____	62: _____	63: _____	64: _____
65: _____	66: _____	67: _____	68: _____
69: _____	70: _____		