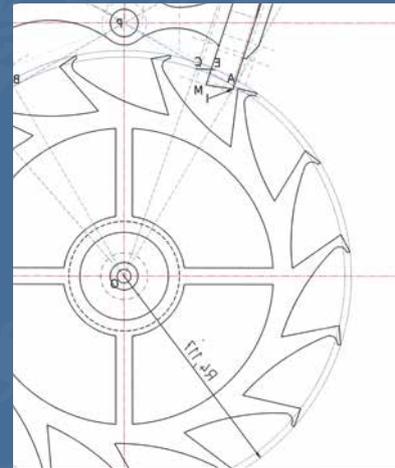
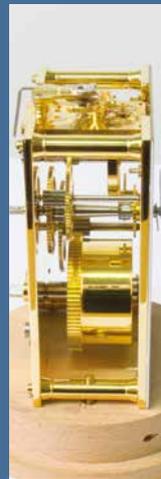




BRITISH
HOROLOGICAL
INSTITUTE



EXAMINATIONS RESULTS 2017

2017 – A High Standard



Stella Haward MBHI
BHI Chairman

The BHI is proud of its dedicated team of examiners who each year ensure that they meet the requirements for offering nationally accredited qualifications. Headed by the Chief Examiner, Jeff O'Dowd FBHI, this year the Senior Team is fortunate to be joined by Alan Burtoft FBHI.

It is most encouraging to note that the 2017 results are at a record high standard and that students have been rewarded in their steadfast exam preparation. I am confident that this trend will continue into next year when they will complete their final Diploma qualifications and achieve BHI post nominals MBHI/FBHI. I should like to wish them every success.



Jeff O'Dowd
Chief Examiner

I would like to offer congratulations to the successful candidates this year. The overall standard of the results for this year's examinations shows a marked improvement on previous years, indeed some are exceptional. I should like to wish our students good luck in pursuing higher BHI qualifications and in their future careers.

This year the number of candidates who successfully emerged with completed Units has increased by more than 40%. It is encouraging that the uptake of examinations continues. In keeping with BHI policy this booklet is produced to provide general feedback on the results of Units taken during the year's examinations. The BHI does not give individual feedback.

D1: Theory of Clock and Watch Servicing

The average mark of 62% was significantly higher than the overall average in previous years.

Q1 Countwheel Striking / Train Count & Pendulum Length Calculation

The action of countwheel striking was well understood by the majority of candidates who gave accurate descriptions and many scored well. The required number of beats per minute (4860) was found by the majority of candidates, using the standard formula. Those who used alternative methods nearly all obtained the wrong answer. Only two candidates achieved the correct pendulum length of 545 mm. About half the remainder followed the correct procedure, but had minor rounding errors, giving 544 mm or 546 mm.

Q2 Incabloc Setting / Quartz Watch Tests

How the Incabloc setting operates to prevent damage to the pivots was well known, and many good answers were seen. However, some answers lacked sufficient detail to score high marks and diagrams were not always clear.

Most candidates listed six standard tests, as required, and many were clear on the likely fault if a test failed. Some, however, had little knowledge of this.

Q3 Recoil Escapement / Lever Escapement Safety Action

For the recoil escapement, candidates were required to explain the terms drop, impulse, recoil, supplementary arc and exit pallet. Many gave very good explanations and clearly understood the terms well. Others were somewhat vague and lacking in detail. Surprisingly there were only two or three good drawings of the double roller assembly, and the notch, horns and guard pin.

It was clear that many candidates could not accurately picture the arrangement of the parts in their minds. Some guard pins were too short to interact with the safety roller. Passing crescents were often too large or too small. In some cases, the impulse pin was too long and would have hit the guard pin instead of passing above it. Many were completely disproportionate. Despite the poor drawings, descriptions did show some understanding of the action and some marks were awarded for this. The few with good drawings, generally had accurate descriptions and scored well.

Q4 Basic Hand Tools, Soldering, Hardening and Tempering

Candidates had to describe and give typical uses for the watchmaker's screwdriver, tweezers and burnisher. All candidates scored well. The metals used in hard and soft solder and the reasons why flux is needed were also well understood and many scored well here, also. The procedure for hardening and tempering was also well known, with most candidates scoring high marks again.

Short Answers

The questions that gave most difficulty were descriptions of "circular error" and "compound pendulum" and the naming of the four components that turn when setting the hands in a mechanical watch. Otherwise many candidates scored well on this section, the highest mark being 17 out of 20.

D2: Constructing Clock Components

Candidates were required to make a Carriage Clock Jumper, Collet & Post Assembly, to demonstrate a range of basic practical making skills, including filing and turning brass and steel, riveting, cutting a thread, blueing and polishing. Five candidates achieved a pass with merit and six achieved a pass.

Accuracy

The results for accuracy were very encouraging with most candidates achieving 50% or above marks. The main issue for most candidates seemed to be with the length of the post, the length not being within tolerance and some nearly 1mm oversize. As in other years end shake and side shake caused problems. A few candidates managed correct shake to achieve maximum marks, but most had small to large errors possibly due to lack of practice. All other measurements were well to very well executed.

Workmanship

Some candidates achieved well above 50% of the marks available and others less than 50%. Once again, the post proved to be the problem. This time it was the manufacturing of the thread and undercut at the thread base. In most cases the thread was not formed or polished as well as it should have been. There was no undercut and a few had no radius end with some even having burrs. The riveting was a success by most of the candidates, with only slight gaps around the collet seating and on the rivet side. There was no bruising and the collet was tight on all but one which was not assembled. Turning of the collet was performed well, with only a few not boring the hole centrally. Taper pins were mostly of the correct taper with rounded ends. Although in some cases the holes had been drilled off centre on the post, and the pin was not even on both sides when fitted.

Finish

It appears candidates may have given more time to this area. The finish was much better with most achieving 50% of the marks available. There is still room for improvement to finish well, but candidates can be congratulated on their achievements. Many candidates achieved a good polish on the jumper flat surfaces. The jumper edges and corners all show file marks or fine abrasive marks. Nearly all internal and external corners were slightly rounded with marks showing. The turned collet was given a high polish some with a good polished. The post blueing was carried out well by most candidates but a few had greyish or purple results.

On the whole these results represent a great improvement over past years. Nevertheless, some candidates should think about training and practice.

D3: Servicing and Correcting Faults in a Single Train Clock

Candidates were provided with a carriage clock with introduced faults. All candidates completed the service in the allotted time.

As in previous years, the marking consisted of an initial Critical Section which considers essential points such as the accuracy of time keeping, correcting the introduced faults and correct lubrication to ensure the servicing meets a minimum standard. Also included are hand alignment, tightness of screws, friction for hand setting and safe action of the click and click spring.

Critical Section

All platform escapements passed the amplitude and beat tests, although one needed the endshake of the contrate arbor adjusting before it could be tested. A few candidates lost marks on regulation rate. Several candidates lost marks because screws were not tight enough, chiefly the platform screws and the click spring screw. In all cases hand alignment and friction for hand-setting were correct and the ratchet action was safe. It is pleasing that this year almost all candidates oiled all pivots that require oiling. There were several instances where the centre arbor front pivot was not lubricated. Oiling this pivot is peculiar to this type of carriage clock where the pivot hole is actually the hour wheel pipe, candidates should make special note of this.

Introduced Faults

Where a candidate was required to re-bush a pivot hole this was generally well done and well finished, all with correct side and end shake.

Repairs of the mainspring eye produced pleasing results having a good symmetrical shape with no sharp corners or rough edges in all but two cases. One had rough edges and was larger than desirable leaving the metal either side unnecessarily narrow; the other had not been softened at the end.

Technical Section

The platform escapement oiling was better than in previous years, although over-oiling of the balance staff jewels was evident. Pallet jewels were mostly correctly oiled, with only a few over-oiling them; a good result in this area.

The balance spring flatness was an issue this year with only two perfectly flat. The spring in the round was in most cases good, but many did not make sure that it was clear of the curb pin and boot at rest, with most resting on one side or the other.

This year worn pivots were not present as an introduced fault in any of the movements. Many candidates either filed and burnished at least one pivot, when this work was not necessary. Candidates should not make assumptions that an introduced fault will appear based on historical examinations.

D4: Servicing and Correcting Faults in a Quartz Watch

A 33% increase in take up is most encouraging.

Faults had been introduced including a broken stem. The candidates are allowed six hours to identify and correct the faults and service the watch.

This year candidates worked with a new movement – the Ronda 319. Many have speculated that the Ronda 319 would be more difficult for candidates to work with than the ETA movements previously used. It is particularly impressive to report that the number of successful candidates has almost quadrupled this year. This is surely a testament to the level of preparation undertaken by the candidates.

All watches were completely assembled and most were working for the critical marking section.

The assessment includes a number of points in the Critical Section to determine whether the candidate can complete a routine service to the quality a customer should expect. The Technical Assessment considers in greater detail how well the watch has been serviced.

Critical Section

Cleanliness of the dial and hands - sometimes there were specks of dust or hairs present on the dial and glass. Hand alignment and date changeovers were excellent. Screws were generally tight with most candidates achieving this.

It is useful to remind candidates that a new gasket should be routinely fitted to the watch as part of the service to ensure a seal between the case back and the case, silicone grease should be applied to the gasket.

In many watches, oiling was either missed, insufficient or over abundant.

Identification and Correction of Faults

Part of the process for identifying faults is to use a quartz watch tester. The candidate is expected to test the circuit board, the lower working voltage, etc. The rate of this movement cannot be adjusted but candidates are expected to test the rate. Candidates should remember that the vibrations of the quartz crystal can be checked as well as the actual rate of the watch (inhibition rate) and it is the latter that is required. It was identified that generally candidates' knowledge of testing for EOL (End of Life battery voltage) and LWV (Lower Working Voltage) could have been better.

Cleanliness

In some cases fingerprints and small hairs were present, and some watches had oily marks on the plates.

Lubrication

As in previous years, this is an aspect of servicing where candidates need to apply greater care. Candidates should practise oiling so that a small quantity of oil can be reliably placed in the oil sink against the pivot. A systematic approach is required so that the oiler collects a constant quantity of oil every time it is placed in the oil cup, and the oil is accurately placed in the oil sink. Where a candidate realises a pivot has been over oiled, the only viable solution is to fully clean away the oil and start afresh.

Additionally, it was noted that there were scratch marks on some date indicators, suggesting the use of steel tweezers on the printed area.

D5: Constructing Clock and Watch Components

Candidates were required to make a carriage clock sized assembly of cock, plate and squared arbor, to ensure that candidates can demonstrate a broad range of practical skills. These include filing and turning brass and steel to ensure correct working fits, achieving a high standard of finish whilst maintaining required dimensions within tolerance. The overall standard was good this year with all pieces above pass standard and one achieving pass with merit.

Accuracy

All candidates achieved a good or reasonable level of dimensional accuracy with all measured dimensions within, or just outside the specified tolerance. Side and end shake on the arbor were better than in recent years. However, many candidates did not manage to make a small, parallel, pivot to correctly suit the supplied jewel hole. The larger top pivot in the cock was generally better than the small bottom pivot, but none achieved a sharp shoulder.

Workmanship

The majority of cocks were fitted flush to the plate with snugly fitting steady pins. Filing the squared end of the arbor was also an improvement on recent years, as was the chamfer round the top of the cock, with four candidates scoring high marks in both cases. As always, the small lifting slot proved the most difficult challenge. Those who milled the slot, achieved better results than the hand filed attempts, none of which had straight or sharp edges. None were well finished, with milling or filing marks clearly remaining.

Finish

The general standard of finish was adequate. The more difficult surfaces, the underside of the top of the cock and the inside curved surface, were often neglected, as were the ends of the screw and square. However, the standard of finish achieved in other areas ensured that all candidates scored over half marks.

D6 Drawing Clock / Watch Escapements

All candidates submit a coursework drawing, common to both Clock and Watch pathways and also sit a three-hour examination, which may differ for each pathway.

The coursework required a plan view of the roller and lever assembly of a Swiss lever escapement, showing constructional details for the notch, horns, and passing crescent. The examination papers required a constructional drawing of the escape pinion, wheel and pallets of a Swiss lever escapement or an anchor recoil escapement together with a sectional side elevation. Candidates can choose whether to manually draw or use CAD software.

General

The overall pass standard was good with four achieving pass with merit. Drawings are required to comply with the requirements of "BS 8888 Engineering Drawing Practice – A guide for further and higher education."

Layout and Conventions

Several candidates were not fully conversant with the required conventions for gears and screw threads. Even in the coursework, when they could consult the booklet, only two used the correct convention for screw threads.

The quality of lettering on the manual drawings was acceptable. Generally the correct line styles were used for each type of line, and the difference between thick and thin lines was sufficient in most cases. Dimensioning was well done in nearly all drawings with very few marks lost, but some candidates did not dimension their examination drawings. A sectional view was required in the coursework. The majority correctly applied the conventions for labelling the cutting plane and sectional view, and most were correctly hatched.

Geometrical Constructions

Most drawings were found to be correctly constructed and dimensionally accurate. Good marks were scored here. Candidates may refer to a booklet outlining the construction process. The examination piece is dimensionally different from the example used in the booklet and candidates must make the necessary adjustments. Most candidates coped with this and made the necessary changes successfully.

D7: The Practical Servicing of Clocks

Each candidate is required to submit a Record of Repairs giving details of eight clock repairs. Of the Records submitted this year none were awarded passes, and were returned for additional work.

D8: The Recoil Escapement, Design and Construction

The examination required candidates to design and make recoil pallets to work with an escape wheel provided by the Institute. A time limit of eight hours is allocated for this task.

Critical Section

Some candidates failed in this section because either the pallets had broken during manufacture, or the pallets did not have the correct number of teeth (7.5) which prevented the escape wheel being advanced because of the pallet nibs hitting escape wheel teeth.

Other candidates produced good results with working pallets, with measurements being very close to the specified values. One candidate scored maximum marks from both examiners, which is commendable.

Accuracy of Construction

Not all candidates extended the pallets to look symmetrical in appearance. Pallet undercuts were well executed.

Workmanship and Finish:

All candidates' pallets were hardened, most having flat faces with sharp edges and corners.

In all cases the finish was not as good as it could have been, with scratches and file marks showing on most surfaces, including the acting faces of the pallets. Finishing, as in other years, is still a problem and I would suggest spending time to master this area. Those candidates that passed, did so with merit.

D9 Servicing and Correcting Faults in a Striking Clock

The examination required candidates to service a French striking clock movement with a pendulum, making and fit a new pendulum using the rod, bob, hook and suspension spring supplied, and to identify and correct a number of introduced faults.

Candidates scored well in all areas with only occasional loss of marks all achieving a pass with Merit.

Servicing

Clocks were very well cleaned, but one had shreds of steel wool in the pendulum suspension assembly and pallet arbor back pivot. Oiling of the going and striking trains was carried out very well by candidates, apart from oiling the warning, locking and lifting pins in the striking work. Mainsprings, barrels and click work were lubricated correctly. The rack striking functioned correctly over a full 12-hour cycle, with correct run to warning, correct positioning of the snail, release exactly on the hour and safe locking shortly after the last blow.

Make and fit Pendulum

All clocks were keeping good time, showing that the new pendulum rods were cut to the correct length. The suspension springs were well fitted, but on all the clocks the pendulum hooks were only just tight enough.

Identifying and Repairing Introduced Faults

All the introduced faults were identified and corrected in all cases, apart from a worn pivot was not well finished, leaving a step at the root in one case. The other faults required making a new domed washer for the rack hook and bushing a barrel lid. These were carried out to a high standard by all candidates.

D10: The Practical Servicing of Complex Clocks

Each candidate is required to submit a Record of Repairs giving details of ten clock repairs, which must include a minimum set of more advanced repair processes.

Verification

The records submitted all met the necessary requirements, and were awarded passes.

D11: The Theory of Complex Clocks and their Repair, Restoration and Conservation

All candidates were awarded a pass.

Q1 Marine Chronometer Escapement & Atmos Clock

The action of the escapement was understood, as was the bellows unit and winding mechanism of the Atmos clock.

Q2 Gridiron Pendulum, Graham Dead Beat Escapement & 400-day version

A clear diagram and accurate description of the gridiron pendulum was provided by candidates. The action of the dead beat escapement was described without the aid of a diagram, but was correct. The differences found in the 400-day version were correctly stated, but the reasons for them were not fully explained.

Q3 Temperature error in Balance & Spring, Bi-metallic Balance, Centrifugal Error

A diagram of the bi-metallic balance showed the correct construction and the description correctly explained the principle.

Q4 Rack chiming & Single 4-legged Gravity Escapement

The components of the chiming work were correctly named and the action correctly des. The action of the gravity escapement was also correctly described.

D12 The Deadbeat Escapement, Design and Construction

There were no entries for this unit this year.

Unit D13: The Practical Restoration and Conservation of Clocks

There were no entries for this unit this year.

D14: The Practical Servicing of Quartz and Mechanical Watches

Each candidate is required to submit a Record of Repairs giving details of repairs to four quartz and six mechanical watches.

The records submitted all met the necessary requirements, and were awarded passes.

D15 Servicing and Correcting Faults in a Manual Winding Watch

Candidates are provided with a manual winding watch with introduced faults. Seven hours are allowed, to identify and correct the faults and service the watch.

The assessment includes a number of points in the Critical Section to determine whether the candidate was able to complete a routine service to the quality a customer should expect. The Technical Assessment considers in greater detail how well the watch has been serviced.

Critical Section

All watches were assembled and most were functional at critical marking. The condition of the cases hands and dials was generally good without damage or marks. Generally, candidates seemed unaware of how the Etachron system works, despite having been sent detailed information about the Etachron system prior to the exam, leading to poor positional timekeeping. Some students were unfamiliar with how to adjust the tightness of the cannon pinion. There was evidence of inconsistent oiling by a few candidates.

Identification and Correction of Faults

A minority of candidates correctly identified and remedied all the introduced faults, with some candidates missing half of the faults. This suggests that candidates need to thoroughly examine and carefully assess all parts of the watch.

Cleanliness

The standard of cleanliness was generally very good.

Lubrication

The evidence was that most candidates methodically lubricated the movements during assembly, but again there was evidence of under or over oiling in some cases.

Damage

There were no reports of any damage.

D16: Servicing and Correcting Faults in an Automatic Watch

Critical Section

The candidates are provided with an automatic watch with introduced faults. Eight hours are allowed to identify and correct the faults and service the watch.

The assessment includes several points in the Critical Section to determine whether the candidate is able to complete a routine service to the quality a customer should expect. The Technical Assessment considers in greater detail how well the watch has been serviced.

All watches were assembled and most were functional at critical marking. The condition of the cases hands and dials was generally good without damage or marks. Generally, candidates seemed unaware of how the Etachron system works, despite having been sent detailed information about the Etachron system prior to the exam, leading to poor positional timekeeping.

Identification and Correction of Faults

Most candidates identified and corrected most of the introduced faults.

Cleanliness

The standard of cleanliness was generally excellent.

Lubrication

The evidence was that most candidates methodically lubricated the movements during assembly.

Damage

Minor damage to the case was noted in one instance. Care should always be taken when opening and closing watch cases, in particular, the use of correct tools.

D17: The Practical Servicing of Complex Watches

Each candidate is required to submit a Record of Repairs giving details of repairs to fifteen watch repairs, including two quartz watches.

No candidates submitted a Record of Repairs.

D18: The Theory of Complex Watches and their Repair, Restoration and Conservation

Q1 Full Calendar Watch & Perpetual Calendar month cam function

Candidates showed that they had a full understanding of both simple and perpetual calendar work, giving excellent answers to both parts of the question.

Q2 Chronometer Escapement / Single Push Piece Chronograph

Candidates understood and correctly explained both elements, but in describing the fly-back mechanism and brake, reference to the relevant springs that actuate the levers was often omitted.

Q3 Temperature error, Bi-metallic Balance & Centrifugal Error

The effect of changes in temperature on a plain balance were known to all candidates, as was the construction and operating principle of the cut bi-metallic balance. Explanations of centrifugal error were given with less confidence, but all candidates knew how and why it arises.

Q4 Self Winding Watch

Candidates were asked to describe three types; reverser wheel, rocking arm and floating pinion. Not all candidates were able to fully describe all three types.

Short Answers

Results were mixed with one candidate scoring almost full marks.

Unit D19 The Practical Restoration and Conservation of Watches

No candidates submitted a Portfolio.

D20 Servicing and Correcting Faults in a Chronograph

The candidates are provided with a chronograph with introduced faults. The candidates are allowed sixteen hours to identify and correct the faults and service the chronograph.

The assessment includes a number of points in the Critical Section to determine whether the candidate is able to complete a routine service to the quality a customer should expect. The Technical Assessment considers in greater detail how well the watch has been serviced.

This is the most difficult of the servicing units, and can only be undertaken after successfully completing all of the other watch servicing units. All candidates were successful.

Critical Section

All candidates completed the servicing of the chronographs, which were all functional for critical assessment.

Identification and Correction of Faults

Most of the candidates identified most of the faults.

Cleanliness

The general condition and cleanliness of the cases was very good achieving high marks.

Lubrication

All points were correctly lubricated as per the manufacturer's specification sheet.

Appeals

If you feel that there is an error in these results, you can appeal to us for a unit (or units) to be re-assessed. An appeal, which must be received no later than 31 August, must clearly state the grounds upon which the appeal is being lodged.

The appeal request must also be accompanied by payment of the relevant fee (which can change from year to year). In the event of a successful appeal, this fee is refundable.

The appeal process should not be entered into lightly. If you are thinking about an appeal on the grounds that you only just failed a unit by a few marks, or indeed only just missed out on a 'Pass with Merit', you ought to remember that your work will already have been additionally assessed by a Senior Examiner.

The BHI Chief Examiner is responsible for administering the appeal process. He or she will arrange for the candidate's work to be re-assessed by two other members of the Examinations Board – that is to say, examiners who were not responsible for the original assessment. Together these three individuals constitute an appeal panel. The role of the appeal panel is to consider whether or not the outcome of the initial assessment was correct.

When the appeal panel has completed its deliberations, the Chief Examiner will notify you exactly how the panel considered your appeal and its decision.

The BHI, having followed this appeal process, will have been deemed by EAL to have fulfilled its duty to the candidate and no further appeals will be considered.

Prizewinners 2017

With thanks to prize donors for their support.

	Diploma in the Servicing and Repair of Clocks/Watches – Best Result George Daniels Educational Trust	Wheeler C
	Diploma in Clock and Watch Servicing – Best Result British Watch and Clock Makers Guild	Jackson A

Unit Prizes

D1	Best Theory Paper, Clocks / Watches Malcolm Barratt Prize	Danasas T
D2	Best Technician Grade Practical Test Piece The Beresford Hutchinson South London Branch Prize	Tiskus A
D3	Best Serviced Carriage Clock Charles Dilley Memorial Prize	Mesa-Jimenez R
D4	Best Serviced Quartz Watch QP Magazine Prize	Davies R
D5	Best Practical Test Piece The Time Aeon Foundation Prize	Kramer R
D6	Best Drawing, Clock / Watch Escapements Malcolm Barratt Prize	Kramer R
D8	Best Recoil Escapement Iain Campbell Memorial Prize	Northwood J
D9	Best Serviced Striking Clock BHI Prize	Wheeler C
D15	Best Serviced Manual Winding Watch Arthur Tremayne Memorial Prize	Nicholas C
D16	Best Serviced Automatic Watch BHI Prize	Broos Revitt O
D20	Best Serviced Chronograph Watch BHI Prize	Koullapis J

Qualifications Awarded in 2017

Diploma in Clock and Watch Servicing					
Jackson A	Clock	PwM	Gair M	Watch	Pass
Tiskus A	Watch	PwM	Proctor S	Watch	Pass
Mesa Jimenez R	Clock	PwM	Northwood J	Watch	Pass
Davies R	Watch	PwM	Dehghan-khalaji D	Watch and Clock	Pass
Davies T	Clock	Pass			

Diploma in the Servicing and Repair of Clocks/Watches					
Wheeler C	Clock	Pass	Northwood J	Clock	Pass
Donohue P	Clock	Pass			

The Unit Structure for each of the ‘Diploma’ Awards.

Diploma in Clock and Watch Servicing (Level 3)	
Unit No.	Mandatory Units
D1	The Theory of Clock and Watch Servicing (Theory Examination)
D2	Constructing Clock Components (Practical Test Piece)
Clock Pathway	
D3	Servicing and Correcting Faults in a Single Train Clock movement (Servicing Test)
Watch Pathway	
D4	Servicing and Correcting Faults in a Quartz Watch (Servicing Test)
Diploma in the Servicing and Repair of Clocks/Watches (Level 4)	
Unit No.	Mandatory Units:
D1	The Theory of Clock and Watch Servicing (Theory Examination)
D5	Constructing Clock and Watch Components (Practical Test Piece)
D6	Drawing Clock / Watch Escapements (Drawing Escapements Examination)
Clock Pathway	
D3	Servicing and Correcting Faults in a Single Train Clock Movement (Servicing Test)
D7	The Practical Servicing of Clocks (Record of Repairs)
D8	The Recoil Escapement, Design and Construction (Servicing Test)
D9	Servicing and Correcting Faults in a Striking Clock Movement (Servicing Test)
D10	The Practical Servicing of Complex Clocks (Record of Repairs)
D11	The Theory of Complex Clocks & their Repair, Restoration & Conservation (Theory Exam)
Watch Pathway	
D4	Servicing and Correcting Faults in a Quartz Watch (Servicing Test)
D14	The Practical Servicing of Quartz and Mechanical Watches (Record of Repairs)
D15	Servicing and Correcting Faults in a Manual Winding Watch Movement (Servicing Test)
D16	Servicing and Correcting Faults in an Automatic Watch (Servicing Test)
D17	The Practical Servicing of Complex Watches (Record of Repairs)
D18	The Theory of Complex Watches & their Repair, Restoration & Conservation (Theory Exam)
Diploma in the Repair, Restoration and Conservation of Clocks/Watches (Level 5)	
Unit No.	Mandatory Units
D1	The Theory of Clock and Watch Servicing (Theory Examination)
D5	Constructing Clock and Watch Components (Practical Test Piece)
D6	Drawing Clock / Watch Escapements (Drawing Escapements Examination)
Clock Pathway	
D7	The Practical Servicing of Clocks (Record of Repairs)
D8	The Recoil Escapement, Design and Construction (Servicing Test)
D9	Servicing and Correcting Faults in a Striking Clock Movement (Servicing Test)
D10	The Practical Servicing of Complex Clocks (Record of Repairs)
D11	The Theory of Complex Clocks & their Repair, Restoration & Conservation (Theory Exam)
D12	The Dead Beat Escapement, Design and Construction (Practical Test Piece)
D13	The Practical Restoration and Conservation of Clocks (Portfolio)
Watch Pathway	
D14	The Practical Servicing of Quartz and Mechanical Watches (Record of Repairs)
D15	Servicing and Correcting Faults in a Manual Winding Watch Movement (Servicing Test)
D16	Servicing and Correcting Faults in an Automatic Watch (Servicing Test)
D17	The Practical Servicing of Complex Watches (Record of Repairs)
D18	The Theory of Complex Watches & their Repair, Restoration & Conservation (Theory Exam)
D19	The Practical Restoration and Conservation of Watches (Portfolio)
D20	Servicing and Correcting Faults in a Chronograph Movement (Servicing Test)

