

# SCQF Level 6 Bagpipes - Theory

Before undertaking the PDQB SCQF Level 6 Course students should ensure they have a sound knowledge of topics covered in theory levels 2 - 5 including:

- Note duration - Simple note values and how to lengthen and shorten notes
- Kinds of time - Duple, Triple, Quadruple
- Simple Time Signatures
- Compound Time Signatures

## Section 1 - SOUND

As musicians what we produce is **SOUND**. It is very important that we understand how sound is produced, received and manipulated.

A better knowledge of how sound works will make us better musicians and more able to look after and manipulate our instruments to produce a better sound that will be better received by the audience.

Sound is something that is produced when a person or thing causes something to vibrate.

The vibrations then travel through the air (or other medium) similar to the wave pattern which appears when a pebble is dropped into a pool of water, which is then detected by the ear and registers as sound in the brain.

Sound may be described as a series of disturbances in matter, to which the ear is sensitive.

Sound can only be produced and registered if all four of the essential elements are present: -

(1) **Originator** - Piper / Drummer

(2) **Vibrating Body** - Reeds / Drumskins

(3) **Medium** Air / Water

(4) **Receptor** - Ear

Should any one of these elements be missing, then sound cannot be produced.

The **ORIGINATOR** is the source of energy which sets the Vibrating Body into motion. This may be a piper forcing air through reeds or a drummer striking a drumskin.

The **VIBRATING BODY**, which when disturbed, or set in motion, sends vibrations through the medium. The Vibrating Body can be virtually anything, but for our purposes, we refer to the blades of a reed or drumskin as Vibrating Bodies.

Vibrations are measured in “**Vibrations per second**” or “**HERTZ**” (Hz). This is known as the frequency of the sound.

The **MEDIUM** through which vibrations travel may consist of any form of matter, however, the density of the medium affects the quality of the sound and its loudness, or volume. For humans, the best medium is air. It should be noted that in a vacuum, i.e., there is an absence of any medium, then no sound can be transmitted.

The **RECEPTOR** is normally the ear.

### **Characteristics of Sound**

The characteristics of sound are: -

(1) **Pitch** - Height or depth of sound

(2) **Volume** - Loudness or softness – intensity of sound

(3) **Quality** - Timbre – tone quality

**PITCH** is the height or depth of sound and is evident as the difference in pitch between:

Pitch is measured by the number of vibrations generated by the vibrating body and this is expressed as “VIBRATIONS PER SECOND” or Hertz (Hz).

The greater the number of cycles per second (Hz), the higher the pitch and conversely the lower the Hz, the lower the pitch.

In the bagpipe, the vibrating bodies, that is, the reeds, set columns of air vibrating along tubes – the chanter and the drones.

The length of the column of air has a direct influence on pitch. The longest drone, the Bass, is lower in the pitch than the shorter drones, the Tenor.

The chanter uses the same principle. The lowest note, Low G, is the furthest from the reed, therefore the air column is long, and, as the player raises fingers one after the other, to sound Low A, B etc., the column is shortened and the sound or notes are successively higher in pitch.

**VOLUME** is always called **AMPLITUDE** or **INTENSITY** is the degree of loudness or softness of a sound. Volume is measured in **DECIBELS**

**QUALITY**, also called **TIMBRE** is what distinguishes between sounds of the same pitch e.g. a trumpet from bagpipe, whether one piper has a better sound than another.

## Categories of Sound

Sound falls into two categories :-

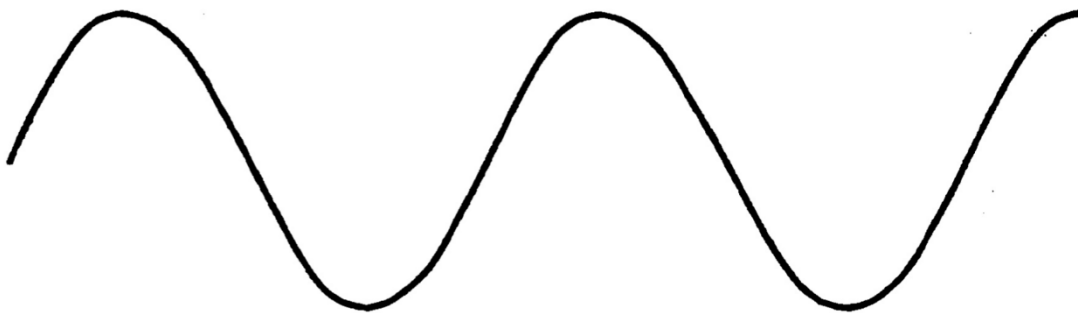
- (1) **MUSICAL**
- (2) **UNMUSICAL SOUND (NOISE)**

The difference between musical and unmusical sound (or noise) can be shown graphically by the wave pattern the sounds produce.

A musical sound produces a regular, constant wave pattern, whereas the wave pattern for an unmusical sound is irregular and often broken.

### MUSICAL WAVE PATTERN

Regular Waves



### UNMUSICAL WAVE PATTERN

Irregular Waves



All musical sounds differ in the following ways :-

(1) **Pitch**

Height or depth

(2) **Volume**

Loud or soft

(3) **Quality**

Timbre, tone, colour      **e.g.** Thin, broad, harsh, soft etc.

(4) **Duration**

Length or value of sound

(5) **Accent**

Stress, emphasis, force, dominance etc.

### **KINDS OF MUSICAL SOUND**

There are TWO kinds of musical sound :-

1. **Legato**

Smooth and connected – The bagpipe is a Legato Instrument

2. **Staccato**

Short and detached – The drum is a Staccato instrument

## **Section 2 - Notation of Light Music Movements**

In the exam you will be asked to notate a sample of between four and six of the following light music movements selected by the Assessor:

- C Doubling from E
- Throw on D from Low A
- Taorluath from D to Low A
- Taorluath from C to C
- Strike on D (closed)
- Half Doubling from High A to F
- Bubbly Note (Darodo) from C to B
- B Doubling from E
- F Doubling from B
- Grip from Low A to C
- E Doubling from B
- Birl with a G Gracenote on Low A
- Hornpipe 'Shake' from Low A to D

You will be asked to write music notation from memory using correct Time Signatures, Clefs and Bar Lines for one part (eight bars) of one of the following tune types selected from tunes you submit in your practical:

- Strathspey
- Reel
- Jig

Practise these and compare your results with the original score until your music writing is fully accurate.

## **Section 3 - Piobaireachd**

The SCQF Level 6 theory syllabus requires you to be able to write the notation and Canntaireachd for the following movements:

- Hiharin
- Dres and Edres
- Dare and Vedare
- Double Echoes on B, D, E, F, and High G
- Harodin/Horodin
- Darodo
- Taorluath
- Taorluath a Mach
- Standard Crunluath
- Crunluath Breabach
- Crunluath Fosgailte
- Crunluath a Mach

Please refer to the Level 6 Exercise sheets to learn these.

## Primary Piobaireachd Construction

The SCQF Level 6 syllabus requires you to understand and be able to describe Primary Piobaireachd construction.

Primary Piobaireachd consists of 3 lines. It is made up of 2 phrases - an A and a B phrase.

The phrases are 2 bars each.

Line 1 is 6 bars long and the phrase structure is AAB.

Line 2 is also 6 Bars long and the structure is ABB.

Line 3 is 4 bars long and the phrase structure is AB.

It is quite common for there to be small melodic variations in the middle phrase of the 1st and 2nd lines.

An example of a pure Primary Piobaireachd is “Clan Campbell's Gathering”

A piobaireachd begins with an “Urlar” or “Ground”. This is the theme of the tune after which an ever increasing complex set of variations are performed on the theme notes as chosen by the composer.

The SCQF Level 6 syllabus requires you to know and be able to describe at least 6 of these variations. This is not an exhaustive list but gives you the main ones that you should know.

### Variation Examples:

**The Thumb Variation** - Same as the Ground played with a slight lift in tempo with selected notes changed to a High A doubling.

**The Suibhal Variation** (Passing or Traversing) - Pairs of notes. The first, the theme note is dotted and its paired note is cut. The theme note will have a G Gracenote on it and the cut note will have a D gracenote on it. The cut note is higher in pitch to the theme note. Here is an example of a phrase in Suibhal:



**The Dithis Variation** - (Pair) Similar to the Suibhal the theme note is dotted and is followed by a cut note of lower pitch, usually Low A or Low G. The theme note will have a G Gracenote on it and the Cut note will have an E gracenote on it where possible. If E isn't possible a G Gracenote is played instead. Here is an example of a phrase in Dithis:



**The Standard Leamluath Variation - (Grip)** In a standard Leamluath variation a G gracenote is played on the theme note which is held followed by a Leamluath or Grip movement to a short E. Where there is a singling and doubling the phrase ends of the single typically finish with a cadence and in the doubling the cadence is substituted for another theme note and Leamluath so the flow is uninterrupted and the doubling is played with a slight lift in tempo from the singling.

Here is an example of a phrase:



**The Standard Taorluath Variation** - Similar to the Leamluath in a standard Taorluath variation the Theme note is played with a g gracenote and it is held followed by Taorluath to a short Low A or sometimes Low G. Where there is a singling and doubling the same applies as for the Leamluath. Here is an example of a phrase:



**The Standard Crunluath** - Again similar to Leamluath and Taorluath the Crunluath movement consists of G Gracenotes played on a long theme note followed by a Crunluath to a short E. Where there is a singling and doubling the same also applies.

Here is an Example of a phrase of standard Crunluath variation:



**Crunluath Braebach** - In the Crunluath Braebach The theme will be followed by a Crunluath movement to a short E. There are then 2 even connecting notes to the next theme note and so on. Here is an example of a phrase of Crunluath Braebach:



**The Crunluath Fosgailte** - In a Fosgailte Piobaireachd where the theme note is Low G. Low A or B the Crunluath is changed to playing a D Gracenote up to a short B or C followed by a dre to E. A standard Crunluath is used for all other theme notes. Here is an example of a phrase of Crunluath Fosgailte:



**The Crunluath A-Mach** - The Crunluath A-Mach variation is played in many piobaireachd after the Crunluath variation has been played. The same theme note progression is followed however when the theme note is B, C or D the A-Mach movement is played instead of the standard Crunluath. The AMach movement on B and C is a G gracenote to the theme note quickly followed by a Leamluath movement to the theme note quickly followed by an open Dre movement to E. The Amach on D consists of a G Gracenote to B quickly followed by a Throw to D quickly followed by a open Dre movement to E. Here is an example of a phrase of Crunluath A Mach:

